




Glass, Frames and Mechanisms

Special Tool(s)

 ST1137-A	73III Automotive Meter 105-R0057 or equivalent
 ST2574-A	Flex Probe Kit 105-R025B or equivalent
 ST2834-A	Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool

Principles of Operation

Power Window Control

The power window one-touch up or down operations (front windows only) are controlled by the window motors. These features function only when the key is in the ON or ACC positions. The one-touch up or down operations are requested by pulling or pressing the window control switch up or down to the second detent. When the second detent of the window control switch is pulled/pressed, the auto circuit is grounded through the switch and the commanded up or down circuit is also grounded through the switch. Depending on which (up or down) circuit carries voltage, the window motor operates the window to the commanded one-touch up or down direction.

The window motor maintains operation until:

- the voltage at the window motor drops below 9 volts.
- a motor stall is detected by monitoring the current draw.

A momentary activation of the window control switch stops the one-touch up/down operation. Pulling or pressing the window control switches to the first detent operates the windows in a proportional mode. Each window motor has a dedicated auto circuit which provides ground to the window motor(s) for one-touch up/down operation.

For convertible, when the convertible top switch is operated (to raise or lower the convertible top), the Smart Junction Box (SJB) sends a signal to the window motors to activate a full down operation of all 4 windows. The [SJB](#) will disable/inhibit the rear quarter window control switch from operating the rear quarter windows when the convertible top ajar switch indicates the convertible top is not in the full UP or full DOWN position.

Inspection and Verification

1. Verify the customer concern.

2. Visually inspect for obvious signs of mechanical or electrical damage.

Visual Inspection Chart

Mechanical	Electrical
<ul style="list-style-type: none"> • Power window regulator • Window run weatherstrip • Door window glass 	<ul style="list-style-type: none"> • Bussed Electrical Center (BEC) fuses: <ul style="list-style-type: none"> ▪ 5 (30A) ▪ 7 (30A) ▪ 11 (30A) ▪ 12 (30A) ▪ 44 (10A) ▪ 52 (30A) • Smart Junction Box (SJB) fuse 6 (5A) • Window control switch • Window motor • Rear window defrost relay • Rear window defrost grid • Circuitry

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.

4. **NOTE:** Make sure to use the latest scan tool software release.

If the cause is not visually evident, connect the scan tool to the Data Link Connector (DLC).

5. **NOTE:** The Vehicle Communication Module (VCM) LED prove out confirms power and ground from the [DLC](#) are provided to the [VCM](#).

If the scan tool does not communicate with the [VCM](#):

- check the [VCM](#) connection to the vehicle.
- check the scan tool connection to the [VCM](#).
- refer to [Section 418-00](#), No Power To The Scan Tool, to diagnose no power to the scan tool.

6. If the scan tool does not communicate with the vehicle:

- verify the ignition key is in the ON position.
- verify the scan tool operation with a known good vehicle.
- refer to [Section 418-00](#) to diagnose no response from the [SJB](#).

7. Carry out the network test.

- If the scan tool responds with no communication from one or more modules, refer to [Section 418-00](#).
- If the network test passes, retrieve and record the Continuous Memory Diagnostic Trouble Codes (CMDTCs).

8. **NOTE:** The [SJB](#) may also be identified as the Generic Electronic Module (GEM).

Clear the [CMDTCs](#) and carry out the self-test diagnostics for the [SJB](#).

9. If the DTCs retrieved are related to the concern, go to the Smart Junction Box (SJB) DTC Chart. For all other DTCs, refer to [Section 419-10](#).

10. If no DTCs related to the concern are retrieved, GO to [Symptom Chart](#).

DTC Chart

Smart Junction Box (SJB) DTC Chart

DTC	Description	Action
B1141	Convertible Top Full Down Position Switch Circuit Failure	GO to Pinpoint Test J.
B1142	Convertible Top Full Up Position Switch Circuit Failure	GO to Pinpoint Test J.
B1342	ECU is Faulted	CLEAR the DTCs. RETRIEVE the DTCs. If DTC B1342 is retrieved, INSTALL a new Smart Junction Box (SJB). REFER to Section 419-10 . TEST the system for normal operation.
B1345	Heated Backlite Input Circuit Short to Ground	GO to Pinpoint Test D.
B1348	Heated Backlite Relay Circuit Open	GO to Pinpoint Test D.
B1349	Heated Backlite Relay Short to Battery	GO to Pinpoint Test D.
B1475	Accessory Delay Relay Short to Battery	GO to Pinpoint Test I.
B2052	Accessory Delay Relay Output Failure	GO to Pinpoint Test H.
B2060	Heated Backlite Indicator Circuit Failure	GO to Pinpoint Test D.
B2061	Heated Backlite Indicator Circuit Shorted to Ground	GO to Pinpoint Test D.
B2360	Window Motor Control Output Circuit Failure	GO to Pinpoint Test G.
All other DTCs	—	REFER to the Master DTC Chart in Section 419-10 .

Symptom Chart

Symptom Chart

Condition	Possible Sources	Action
<ul style="list-style-type: none"> A single power window is inoperative — driver front 	<ul style="list-style-type: none"> Fuse Circuitry Window control switch Window motor Smart Junction Box (SJB) 	<ul style="list-style-type: none"> GO to Pinpoint Test A.
<ul style="list-style-type: none"> A single power window is inoperative — passenger front 	<ul style="list-style-type: none"> Fuse(s) Circuitry Passenger window control switch Driver window control switch Window motor 	<ul style="list-style-type: none"> GO to Pinpoint Test B.
<ul style="list-style-type: none"> All power windows are inoperative 	<ul style="list-style-type: none"> Fuse(s) Circuitry Accessory delay relay 	<ul style="list-style-type: none"> GO to Pinpoint Test H.

	<ul style="list-style-type: none"> • SJB 	
<ul style="list-style-type: none"> • A single power window is inoperative — rear quarter 	<ul style="list-style-type: none"> • Fuse • Circuitry • Rear window control switch • Rear window motor(s) 	<ul style="list-style-type: none"> • GO to Pinpoint Test C.
<ul style="list-style-type: none"> • The one-touch up/down feature is inoperative 	<ul style="list-style-type: none"> • Fuse • Circuitry • Window control switch • Window motor • SJB 	<ul style="list-style-type: none"> • If driver window, GO to Pinpoint Test A. If passenger window, GO to Pinpoint Test B.
<ul style="list-style-type: none"> • The defrost system is inoperative 	<ul style="list-style-type: none"> • Fuse • Circuitry • Heated rear window relay • HVAC module • Heated rear window grid 	<ul style="list-style-type: none"> • GO to Pinpoint Test D.
<ul style="list-style-type: none"> • The defrost system will not shut off automatically 	<ul style="list-style-type: none"> • Circuitry • Heated rear window relay • HVAC module 	<ul style="list-style-type: none"> • GO to Pinpoint Test E.
<ul style="list-style-type: none"> • The short drop windows do not operate correctly 	<ul style="list-style-type: none"> • Circuitry • Driver window motor • Passenger window motor • Door ajar switch • Window motor not initialized 	<ul style="list-style-type: none"> • GO to Pinpoint Test F.
<ul style="list-style-type: none"> • The delayed accessory is inoperative 	<ul style="list-style-type: none"> • Fuse(s) • Circuitry • Accessory delay relay • SJB 	<ul style="list-style-type: none"> • GO to Pinpoint Test H.
<ul style="list-style-type: none"> • The delayed accessory does not turn off 	<ul style="list-style-type: none"> • Circuitry • Accessory delay relay • SJB 	<ul style="list-style-type: none"> • GO to Pinpoint Test I.
<ul style="list-style-type: none"> • Bounce-back occurring 	<ul style="list-style-type: none"> • Door window glass out of adjustment • Door window glass weatherstrip worn • Obstruction in the window channel 	<ul style="list-style-type: none"> • ADJUST the door window glass. • INSTALL a new door window glass weatherstrip. • REMOVE the obstruction from the window channel. DE-INITIALIZE the door window motor by disconnecting the battery with the door window motor in operation, then INITIALIZE the door window motor. REFER to Window Motor Initialization in this section.
<ul style="list-style-type: none"> • The one-touch up feature is inoperative 	<ul style="list-style-type: none"> • Door window motor not initialized • Window control switch 	<ul style="list-style-type: none"> • DE-INITIALIZE the door window motor by disconnecting the battery with the door window motor in operation, then INITIALIZE the door window motor. REFER to Window Motor Initialization in

		this section. If the one-touch up feature is still inoperative, INSTALL a new power window control switch.
<ul style="list-style-type: none"> The convertible top drop function is inoperative/does not operate correctly 	<ul style="list-style-type: none"> Window motor Circuitry SJB 	<ul style="list-style-type: none"> GO to Pinpoint Test G.

Pinpoint Tests

Pinpoint Test A: A Single Power Window is Inoperative — Driver Front

Refer to Wiring Diagrams Cell [100](#), Power Windows for schematic and connector information.

Normal Operation

During normal operation, battery voltage is provided to the driver power window motor at all times through circuit 2034 (VT/YE). When the accessory delay relay is active, the driver power window motor receives voltage through circuit 400 (LB/BK). Ground is provided to the driver power window motor through circuit 1205 (BK). Pulling the window control switch up provides voltage to the window motor through circuit 226 (WH/BK) to command the window up. Pressing the window control switch down provides voltage to the window motor through circuit 227 (YE) to command the window down.

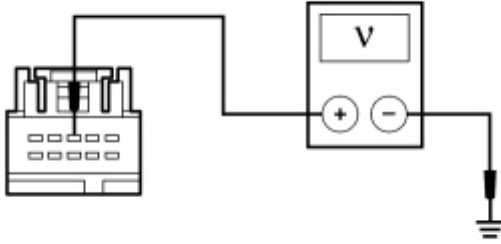
This pinpoint test is intended to diagnose the following:

- Fuse
- Wiring, terminals or connectors
- Window motor
- Window control switch
- Smart Junction Box (SJB)

PINPOINT TEST A: A SINGLE POWER WINDOW IS INOPERATIVE — DRIVER FRONT

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

Test Step	Result / Action to Take
A1 CHECK THE POWER SUPPLY TO THE DRIVER WINDOW CONTROL SWITCH <ul style="list-style-type: none"> Ignition OFF. Disconnect: Driver Window Control Switch C504. Ignition ON. Measure the voltage between driver window control switch C504-3, circuit 985 (RD/LB), harness side and ground. 	<p>Yes GO to A2.</p> <p>No GO to A11.</p>

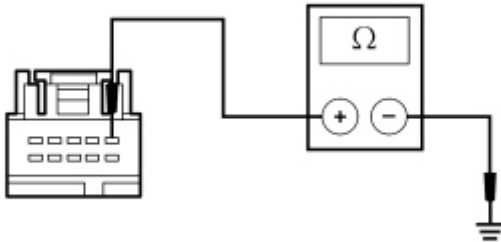


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- Is the voltage greater than 10 volts?

A2 CHECK THE DRIVER WINDOW CONTROL SWITCH CIRCUIT 1205 (BK) FOR AN OPEN

- Ignition OFF.
- Measure the resistance between driver window control switch C504-1, circuit 1205 (BK), harness side and ground.



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- Is the resistance less than 5 ohms?

Yes
GO to [A3](#).

No
REPAIR the circuit. TEST the system for normal operation.

A3 CHECK THE DRIVER WINDOW CONTROL SWITCH FOR AN OPEN

- Carry out the Window Control Switch Component Test.

Refer to Wiring Diagrams Cell [149](#) for component testing.
- Is the driver window control switch OK?

Yes
GO to [A4](#).

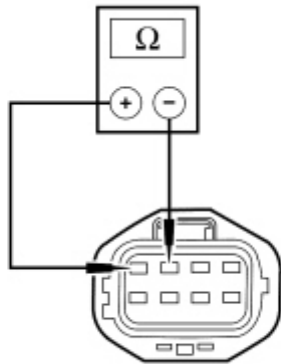
No
INSTALL a new driver window control switch. REFER to [Window Control Switch](#) in this section. TEST the system for normal operation.

A4 CHECK FOR SHORT BETWEEN CIRCUITS 226 (WH/BK) AND 227 (YE)

- Disconnect: Driver Window Motor C518.
- Measure the resistance between driver window motor C518-3, circuit 226 (WH/BK), harness side and C518-4, circuit 227 (YE), harness side.

Yes
GO to [A5](#).

No
REPAIR the circuit. TEST the system for normal operation.

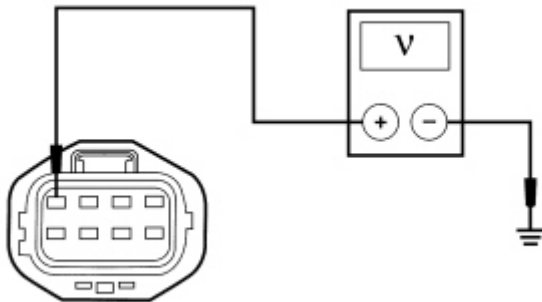


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- Is the resistance greater than 10,000 ohms?

A5 CHECK CIRCUIT 227 (YE) FOR AN OPEN

- Connect: Driver Window Control Switch C504.
- Ignition ON.
- Measure the voltage between driver window motor C518-4, circuit 227 (YE), harness side and ground while rocking the driver window control switch to the DOWN position.



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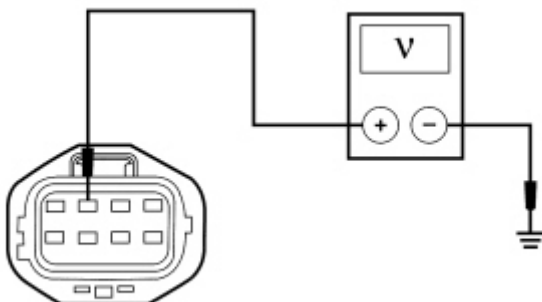
- Is the voltage greater than 10 volts with the switch in the DOWN position?

Yes
GO to [A6](#).

No
REPAIR the circuit. TEST the system for normal operation.

A6 CHECK CIRCUIT 226 (WH/BK) FOR AN OPEN

- Measure the voltage between driver window motor C518-3, circuit 226 (WH/BK), harness side and ground while rocking the driver window control switch to the UP position.



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- Is the voltage greater than 10 volts with the switch in the UP position?

Yes
GO to [A7](#).

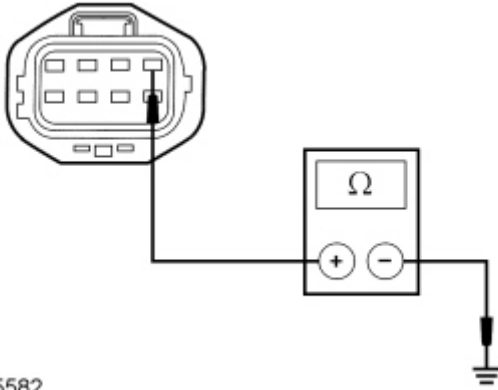
No
REPAIR the circuit. TEST the system for normal operation.

A7 CHECK CIRCUIT 404 (VT/LG) FOR AN OPEN

- Measure the resistance between driver window motor C518-1, circuit 404 (VT/LG), harness side and ground while rocking the driver window control switch to the UP (second detent) and DOWN (second detent)

Yes
GO to [A8](#).

positions.



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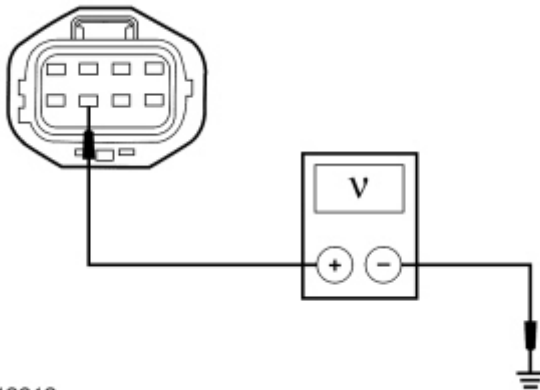
- Is the resistance less than 5 ohms with the switch in the UP and DOWN positions?

No

REPAIR the circuit. TEST the system for normal operation.

A8 CHECK CIRCUIT 2034 (VT/YE) FOR AN OPEN

- Measure the voltage between driver window motor C518-7, circuit 2034 (VT/YE), harness side and ground.



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- Is the voltage greater than 10 volts?

Yes

GO to [A9](#).

No

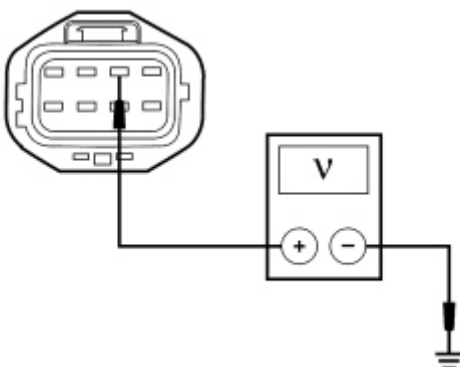
VERIFY the Bussed Electrical Center (BEC) fuse 5 (30A) is OK.

If OK, REPAIR the circuit. TEST the system for normal operation.

If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. REPAIR the circuit. TEST the system for normal operation.

A9 CHECK CIRCUIT 400 (LB/BK) FOR AN OPEN

- Measure the voltage between driver window motor C518-2, circuit 400 (LB/BK), harness side and ground.



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- Is the voltage greater than 10 volts?

Yes

GO to [A10](#).

No

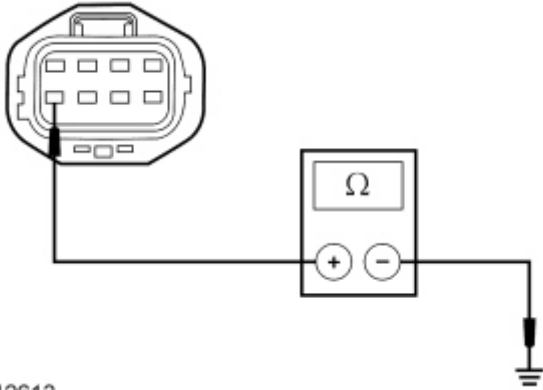
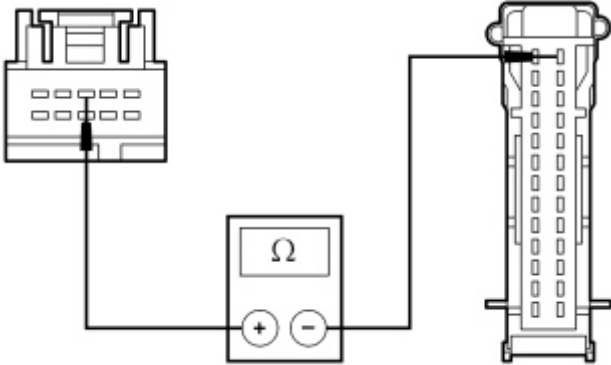
REPAIR the circuit. TEST the system for normal operation.

A10 CHECK THE DRIVER WINDOW MOTOR CIRCUIT 1205 (BK) FOR AN OPEN

- Measure the resistance between driver window motor C518-8, circuit 1205 (BK), harness side and ground.

Yes

INSTALL a new driver window motor. REFER to [Window Regulator and Motor — Front Door](#) in

 <p>N0012613</p> <ul style="list-style-type: none"> • Is the resistance less than 5 ohms? 	<p>this section. TEST the system for normal operation.</p> <p>No REPAIR the circuit. TEST the system for normal operation.</p>
<p>A11 CHECK CIRCUIT 985 (RD/LB) FOR AN OPEN</p>	
<ul style="list-style-type: none"> • Ignition OFF. • Disconnect: SJB C2280E. • Measure the resistance between driver window control switch C504-3, circuit 985 (RD/LB), harness side and SJB C2280E-26, circuit 985 (RD/LB), harness side.  <p>N0025584</p> <ul style="list-style-type: none"> • Is the resistance less than 5 ohms? 	<p>Yes GO to A12.</p> <p>No REPAIR the circuit. TEST the system for normal operation.</p>
<p>A12 CHECK THE SJB FOR CORRECT OPERATION</p>	
<ul style="list-style-type: none"> • Disconnect all of the SJB connectors. • Check for: <ul style="list-style-type: none"> ■ corrosion. ■ pushed-out pins. • Connect all of the SJB connectors and make sure they seat correctly. • Operate the system and verify the concern is still present. • Is the concern still present? 	<p>Yes INSTALL a new SJB. REFER to Section 419-10. REPEAT the self-test. TEST the system for normal operation.</p> <p>No The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.</p>

Pinpoint Test B: A Single Power Window is Inoperative — Passenger Front

Refer to Wiring Diagrams Cell [100](#), Power Windows for schematic and connector information.

Normal Operation

During normal operation, battery voltage is provided to the passenger power window motor at all times through circuit 2033 (BN/LB). When the accessory delay relay is active, the passenger power window motor receives voltage through circuit 170 (RD/LB) and the passenger front window control switch receives voltage through circuit 984 (YE/LB). Ground is provided to the passenger power window motor through circuit 1205 (BK). Pulling the driver or passenger window control switch up provides voltage to the window motor through circuit 313

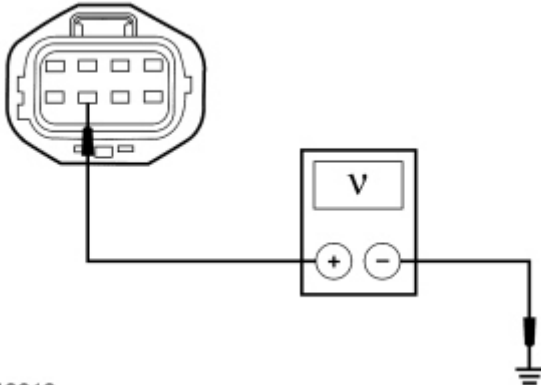
(WH/YE) to command the window up. Pressing the driver or passenger window control switch down provides voltage to the window motor through circuit 314 (TN/LB) to command the window down.

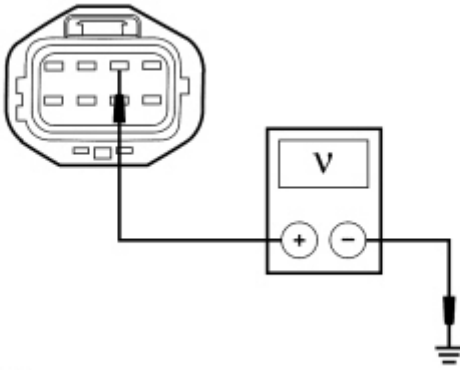
This pinpoint test is intended to diagnose the following:

- Fuse(s)
- Wiring, terminals or connectors
- Driver window control switch
- Front passenger window control switch
- Front passenger window motor

PINPOINT TEST B: A SINGLE POWER WINDOW IS INOPERATIVE — PASSENGER FRONT

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

Test Step	Result / Action to Take
<p>B1 CHECK THE OPERATION FROM THE DRIVER WINDOW CONTROL SWITCH</p> <ul style="list-style-type: none"> • Using the driver window switch, operate the passenger window in the up, down and auto positions. • Does the passenger window operate for all positions? 	<p>Yes GO to B12.</p> <p>No GO to B2.</p>
<p>B2 CHECK THE DRIVER WINDOW CONTROL SWITCH</p> <ul style="list-style-type: none"> • Ignition OFF. • Disconnect: Driver Window Control Switch C504. • Carry out the Master Window Adjust Switch component test. <p>Refer to Wiring Diagrams Cell 149 for component testing.</p> <ul style="list-style-type: none"> • Did the driver window control switch pass the component test? 	<p>Yes GO to B3.</p> <p>No INSTALL a new driver window control switch. REFER to Window Control Switch in this section. TEST the system for normal operation.</p>
<p>B3 CHECK CIRCUIT 2033 (BN/LB) FOR VOLTAGE</p> <ul style="list-style-type: none"> • Disconnect: Front Passenger Window Motor C623. • Ignition ON. • Measure the voltage between front passenger window motor C623-7, circuit 2033 (BN/LB), harness side and ground.  <p>N0012612</p> <ul style="list-style-type: none"> • Is the voltage greater than 10 volts? 	<p>Yes GO to B4.</p> <p>No VERIFY that bussed electrical center (BEC) fuse 7 (30A) is OK.</p> <p>If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. TEST the system for normal operation.</p>
<p>B4 CHECK CIRCUIT 170 (RD/LB) FOR VOLTAGE</p> <ul style="list-style-type: none"> • Measure the voltage between front passenger window motor C623-2, circuit 170 (RD/LB), harness side and ground. 	<p>Yes GO to B5.</p>



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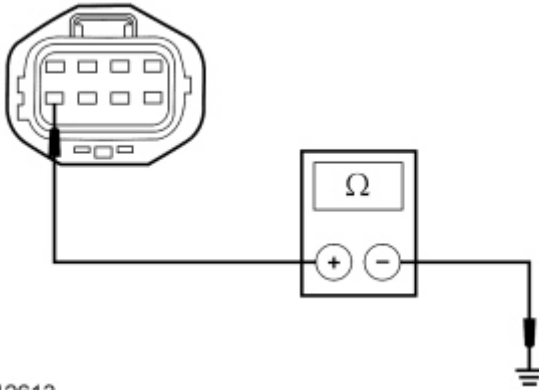
- Is the voltage greater than 10 volts?

No
 VERIFY that smart junction box (SJB) fuse 6 (5A) is OK. If OK, REPAIR the circuit.

If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. TEST the system for normal operation.

B5 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Ignition OFF.
- Measure the resistance between front passenger window motor C623-8, circuit 1205 (BK), harness side and ground.



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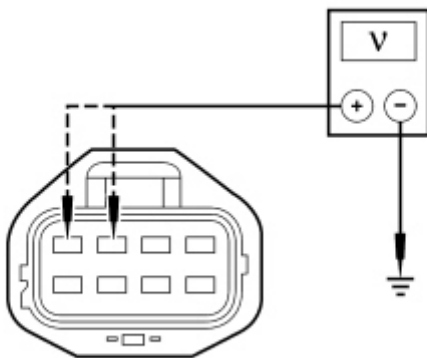
- Is the resistance less than 5 ohms?

Yes
 GO to [B6](#).

No
 REPAIR the circuit. TEST the system for normal operation.

B6 CHECK CIRCUITS 313 (WH/YE) AND 314 (TN/LB) FOR A SHORT TO VOLTAGE

- Ignition ON.
- Measure the voltage between ground and front passenger window motor:
 - C623-3, circuit 313 (WH/YE), harness side.
 - C623-4, circuit 314 (TN/LB), harness side.



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- Is any voltage present?

Yes
 GO to [B7](#).

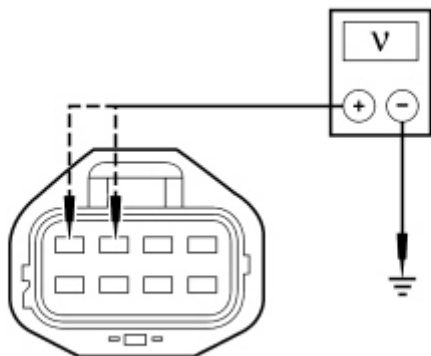
No
 GO to [B8](#).

B7 CHECK FOR A SHORTED FRONT PASSENGER WINDOW CONTROL SWITCH

- Ignition OFF.

Yes

- Disconnect: Front Passenger Window Control Switch C604.
- Ignition ON.
- Measure the voltage between ground and front passenger window motor:
 - C623-3, circuit 313 (WH/YE), harness side.
 - C623-4, circuit 314 (TN/LB), harness side.



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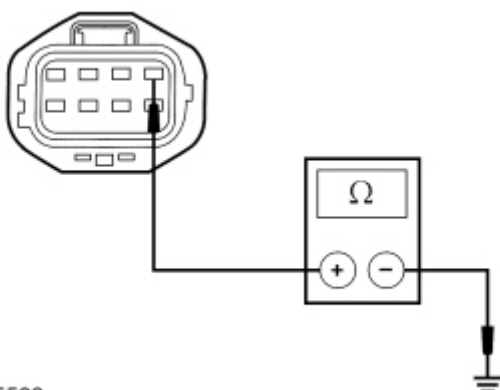
- Is any voltage present?

REPAIR the circuit(s). TEST the system for normal operation.

No
INSTALL a new front passenger window control switch. REFER to [Window Control Switch](#) in this section. TEST the system for normal operation.

B8 CHECK CIRCUIT 405 (VT/LB) FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between front passenger window motor C623-1, circuit 405 (VT/LB), harness side and ground.



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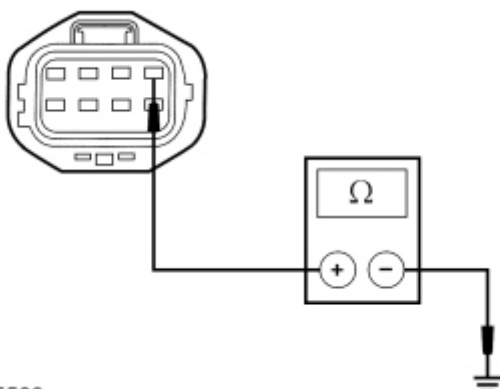
- Is the resistance greater than 10,000 ohms?

Yes
GO to [B10](#).

No
GO to [B9](#).

B9 CHECK FOR A SHORTED FRONT PASSENGER WINDOW CONTROL SWITCH

- Disconnect: Front Passenger Window Control Switch C604.
- Measure the resistance between front passenger window motor C623-1, circuit 405 (VT/LB), harness side and ground.



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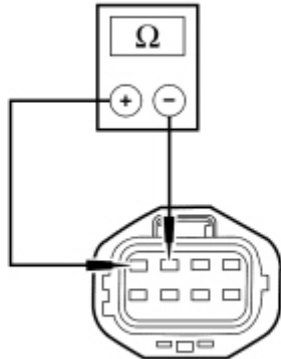
- Is the resistance greater than 10,000 ohms?

Yes
REPAIR the circuit(s). TEST the system for normal operation.

No
INSTALL a new front passenger window control switch. REFER to [Window Control Switch](#) in this section. TEST the system for normal operation.

B10 CHECK FOR SHORT BETWEEN CIRCUITS 313 (WH/YE) AND 314 (TN/LB)

- Disconnect: Front Passenger Window Control Switch C604.
- Measure the resistance between front passenger window motor C623-3, circuit 313 (WH/YE), harness side and C623-4, circuit 314 (TN/LB), harness side.



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- Is the resistance greater than 10,000 ohms?

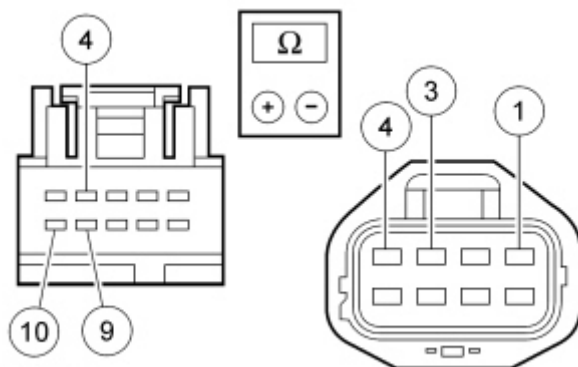
Yes
GO to [B11](#).

No
REPAIR the circuit. TEST the system for normal operation.

B11 CHECK CIRCUITS 313 (WH/YE), 314 (TN/LB) AND 405 (VT/LB) FOR AN OPEN

- Measure the resistance between driver window control switch C504, harness side and front passenger window motor C623, harness side using the following chart:

Driver Window Control Switch	Circuit	Front Passenger Window Motor
C504-4	314 (TN/LB)	C623-4
C504-9	405 (VT/LB)	C623-1
C504-10	313 (WH/YE)	C623-3



N0093222

- Are the resistances less than 5 ohms?

Yes
INSTALL a new front passenger window motor. REFER to [Window Regulator and Motor — Front Door](#) in this section. TEST the system for normal operation.

No
REPAIR the circuit(s). TEST the system for normal operation.

B12 CHECK THE FRONT PASSENGER WINDOW CONTROL SWITCH

- Ignition OFF.
- Disconnect: Front Passenger Window Control Switch C604.
- Carry out the Window Adjust Switch, Passenger Side component test.

Refer to Wiring Diagrams Cell [149](#) for component testing.

Yes
GO to [B13](#).

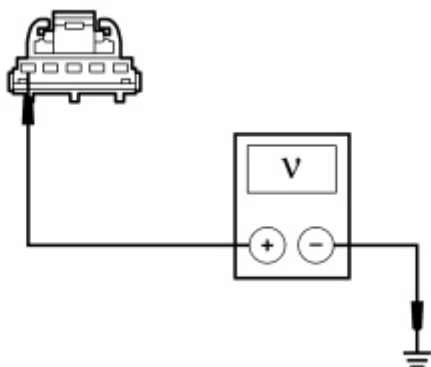
No
INSTALL a new front passenger window control

- Did the front passenger window control switch pass the component test?

switch. REFER to [Window Control Switch](#) in this section. TEST the system for normal operation.

B13 CHECK CIRCUIT 984 (YE/LB) FOR VOLTAGE

- Measure the voltage between front passenger window control switch C604-5, circuit 984 (YE/LB), harness side and ground.



N0025586

- Is the voltage greater than 10 volts?

Yes
GO to [B14](#).

No
VERIFY that SJB fuse 6 (5A) is OK.

If OK, REPAIR the circuit. If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. TEST the system for normal operation.

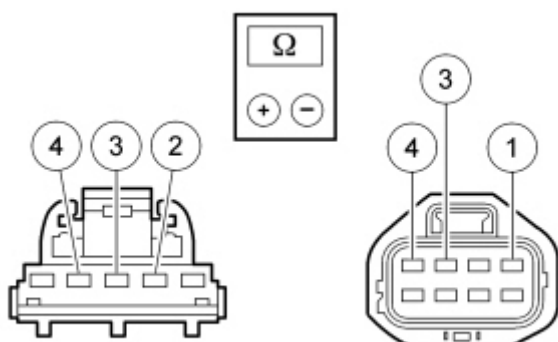
B14 CHECK CIRCUITS 313 (WH/YE), 314 (TN/LB) AND 405 (VT/LB) FOR AN OPEN

- Measure the resistance between front passenger window control switch C604, harness side and front passenger window motor C623, harness side using the following chart:

Front Passenger Window Control Switch	Circuit	Front Passenger Window Motor
C604-2	405 (VT/LB)	C623-1
C604-4	313 (WH/YE)	C623-3
C604-3	314 (TN/LB)	C623-4

Yes
INSTALL a new front passenger window motor. REFER to [Window Regulator and Motor — Front Door](#) in this section. TEST the system for normal operation.

No
REPAIR the circuit(s). TEST the system for normal operation.



N0093223

- Are the resistances less than 5 ohms?

Pinpoint Test C: A Single Power Window is Inoperative — Rear Quarter

Refer to Wiring Diagrams Cell [100](#), Power Windows for schematic and connector information.

Normal Operation

The quarter window motors receive voltage at all times through circuit 1773 (RD/LB) (LH) and 1670 (BN/YE) (RH). With the key in the ON position (or with the accessory delay relay active), the quarter window motors receive voltage through circuit 882 (BN/YE)/193 (YE/LG) (LH) and 882 (BN/YE) (RH). Ground is provided to the quarter window motors through circuit 1205 (BK).

When the window control switch is pulled up, voltage is supplied to the LH/RH quarter window motors through circuit 884 (YE/BK) to command the windows up. When the window control switch is pushed, voltage is supplied to the LH/RH quarter window motors through circuit 885 (YE/LB) to command the windows down.

The Smart Junction Box (SJB) disables/inhibits the rear quarter window control switch from operating the rear quarter windows when the convertible top ajar switch indicates the convertible top is not in the full UP or full DOWN position.

This pinpoint test is intended to diagnose the following:

- Fuse(s)
- Wiring, terminals or connectors
- Rear window control switch
- Window motor
- [SJB](#)

PINPOINT TEST C: A SINGLE POWER WINDOW IS INOPERATIVE — REAR QUARTER

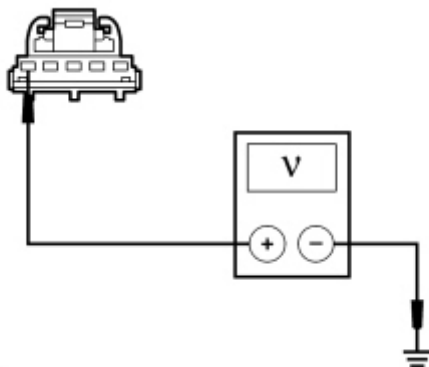
NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

NOTE: If [SJB](#) on-demand DTC B1141 or B1142 is present, the rear quarter windows may still function during convertible top operation, but will not function when commanded by the window control switch. Refer to the Smart Junction Box (SJB) DTC Chart for diagnosis.

Test Step	Result / Action to Take
C1 CARRY OUT THE ON-DEMAND SELF TEST FOR THE CONVERTIBLE TOP AJAR SWITCH	
<p>NOTE: False DTCs will set if the convertible top is not in the full down position before carrying out this test.</p> <ul style="list-style-type: none"> ● Connect the scan tool. ● Ignition ON. ● With the convertible top and the rear windows in the full DOWN position, carry out the on-demand self test for the SJB. ● Does DTC B1141 or DTC B1142 set as current? 	<p>Yes GO to Pinpoint Test J.</p> <p>No GO to C2.</p>
C2 CHECK THE OPERATION OF THE REAR WINDOWS	
<ul style="list-style-type: none"> ● Operate the rear windows with the driver rear window control switch. ● Are both rear windows inoperative? 	<p>Yes GO to C3.</p> <p>No GO to C6.</p>
C3 CHECK THE REAR WINDOW CONTROL SWITCH FOR AN OPEN	
<ul style="list-style-type: none"> ● Ignition OFF. ● Disconnect: Rear Window Control Switch C566. ● Carry out the Window Control Switch Component Test. <p>Refer to Wiring Diagrams Cell 149 for component testing.</p> <ul style="list-style-type: none"> ● Is the window control switch OK? 	<p>Yes GO to C4.</p> <p>No INSTALL a new window control switch. REFER to Window Control Switch in this section. TEST the system for normal operation.</p>

C4 CHECK CIRCUIT 333 (YE/RD) FOR VOLTAGE

- Ignition ON.
- Measure the voltage between rear window control switch C566-5, circuit 333 (YE/RD), harness side and ground.



N0025586

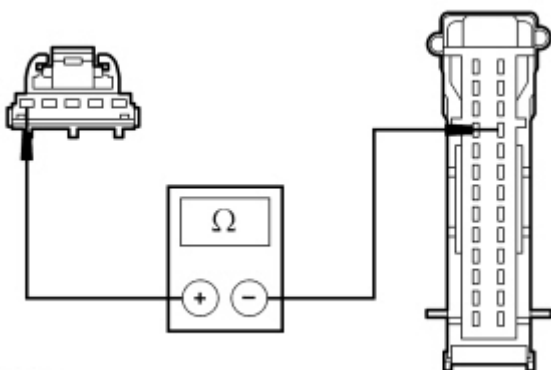
- Is the voltage greater than 10 volts?

Yes
GO to [C6](#).

No
GO to [C5](#).

C5 CHECK CIRCUIT 333 (YE/RD) FOR AN OPEN

- Ignition OFF.
- Disconnect: [SJB C2280E](#).
- Measure the resistance between rear window control switch C566-5, circuit 333 (YE/RD), harness side and [SJB C2280E-23](#), circuit 333 (YE/RD), harness side.



N0025590

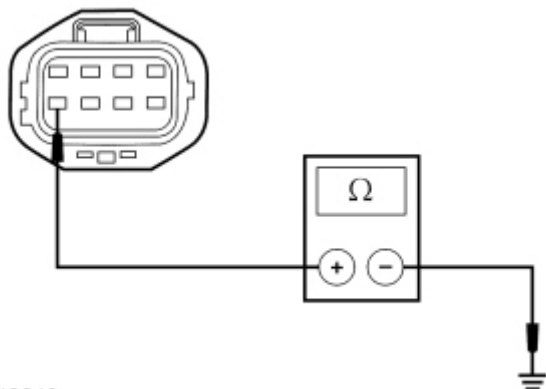
- Is the resistance less than 5 ohms?

Yes
GO to [C13](#).

No
REPAIR the circuit.
TEST the system for normal operation.

C6 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Ignition OFF.
- Disconnect: Suspect Window Motor C3118 (Left Rear) or C3119 (Right Rear).
- Measure the resistance between LH rear window motor C3118-8, or RH rear window motor C3119-8, circuit 1205 (BK), harness side and ground.



N0012613

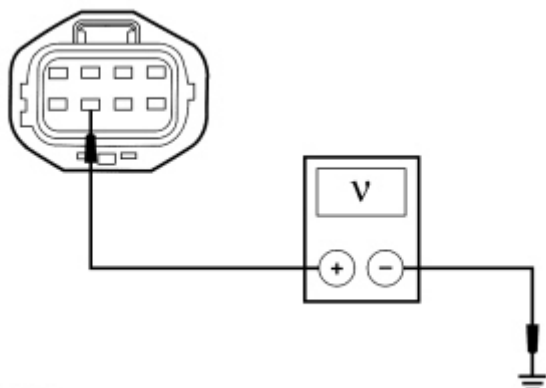
- Is the resistance less than 5 ohms?

Yes
GO to [C7](#).

No
REPAIR the circuit.
TEST the system for normal operation.

C7 CHECK THE VBATT CIRCUIT FOR AN OPEN

- Ignition ON.
- Measure the voltage between LH rear window motor, C3118-7, or RH rear window motor C3119-7, circuit 1670 (BN/YE), harness side and ground.



N0012612

- Is the voltage greater than 10 volts?

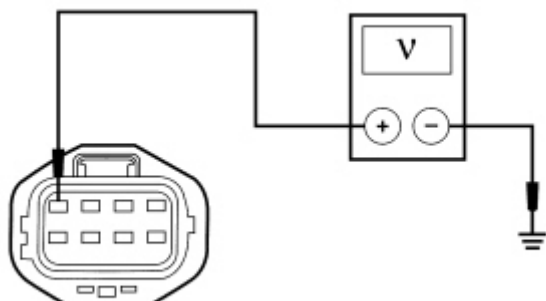
Yes
GO to [C8](#).

No
For LH, VERIFY the Bussed Electrical Center (BEC) fuse 11 (30A) is OK. For RH, VERIFY the BEC fuse 12 (30A) is OK. If OK, REPAIR the circuit. TEST the system for normal operation.

If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. REPAIR the circuit. TEST the system for normal operation.

C8 CHECK CIRCUIT 885 (YE/LB) FOR AN OPEN

- Ignition OFF.
- Disconnect: Rear Window Control Switch C566.
- Ignition ON.
- While rocking the rear window control switch to the DOWN position, measure the voltage between LH rear window motor C3118-4, or RH rear window motor C3119-4, circuit 885 (YE/LB), harness side and ground.



N0012609

- Is the voltage greater than 10 volts with the switch in the DOWN position?

Yes
GO to [C9](#).

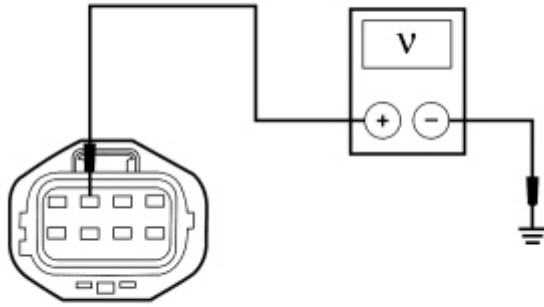
No
REPAIR the circuit. TEST the system for normal operation.

C9 CHECK CIRCUIT 884 (YE/BK) FOR AN OPEN

- While rocking the passenger window control switch to the UP position, measure the voltage between LH rear window motor C3118-3, or RH rear window motor C3119-3, circuit 884 (YE/BK), harness side and ground.

Yes
GO to [C10](#).

No
REPAIR the circuit. TEST the system for normal operation.

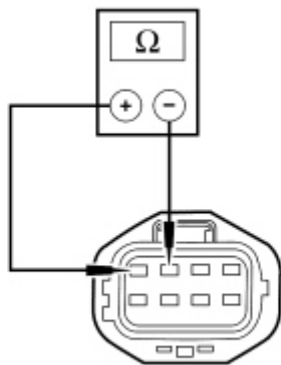


N0012610

- Is the voltage greater than 10 volts with the switch in the UP position?

C10 CHECK FOR SHORT BETWEEN CIRCUITS 884 (YE/BK) AND 885 (YE/LB)

- Ignition OFF.
- Disconnect: Rear Window Control Switch C566.
- Measure the resistance between LH rear window motor C3118-3, circuit 884 (YE/BK), harness side and C3118-4, circuit 885 (YE/LB), harness side.



N0093721

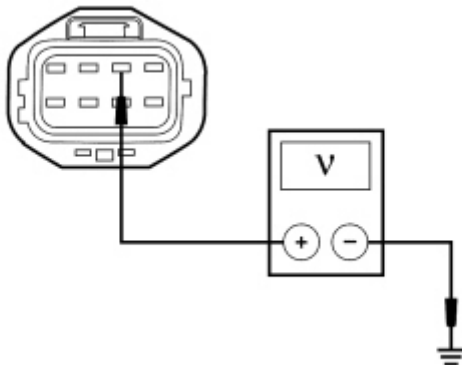
- Is the resistance greater than 10,000 ohms?

Yes
GO to [C11](#).

No
REPAIR the circuit.
TEST the system for normal operation.

C11 CHECK CIRCUIT 882 (BN/YE) FOR VOLTAGE

- Ignition ON.
- Measure the voltage between LH rear window motor C3118-2, or RH rear window motor C3119-2, circuit 882 (BN/YE), harness side and ground.



N0025583

- Is the voltage greater than 10 volts?

Yes
INSTALL a new rear quarter window regulator and motor. REFER to [Window Regulator Motor — Rear Quarter](#) in this section. TEST the system for normal operation.

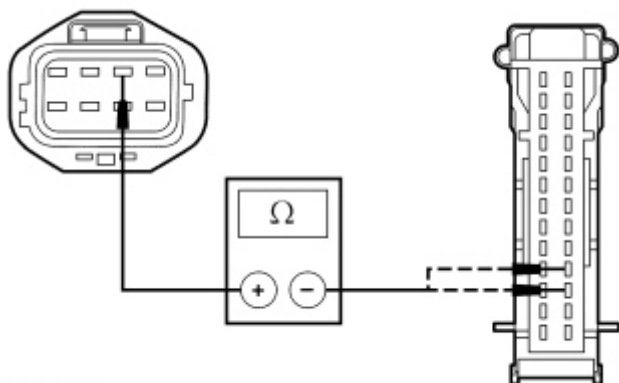
No
GO to [C12](#).

C12 CHECK CIRCUITS 193 (YE/LG) OR 882 (BN/YE) FOR AN OPEN

- Ignition OFF.
- Disconnect: [SJB C2280E](#).
- Measure the resistance between LH rear window motor C3118-2, circuit

Yes
GO to [C13](#).

882 (BN/YE), harness side and [SJB](#) C2280E-17, circuit 193 (YE/LG), harness side; or between RH rear window motor C3119-2, circuit 882 (BN/YE), harness side and [SJB](#) C2280E-16, circuit 882 (BN/YE), harness side.



N0025608

- Is the resistance less than 5 ohms?

No
REPAIR the circuit in question. TEST the system for normal operation.

C13 CHECK THE [SJB](#) FOR CORRECT OPERATION

- Disconnect all of the [SJB](#) connectors.
- Check for:
 - corrosion.
 - pushed-out pins.
- Connect all of the [SJB](#) connectors and make sure they seat correctly.
- Operate the system and verify the concern is still present.
- Is the concern still present?

Yes
INSTALL a new [SJB](#). REFER to [Section 419-10](#). TEST the system for normal operation.

No
The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.

Pinpoint Test D: The Defrost System is Inoperative

Refer to Wiring Diagrams Cell [56](#), Heated Window for schematic and connector information.

Normal Operation

When the rear window defrost switch on the HVAC module is pressed, a ground signal is sent to the Smart Junction Box (SJB) on circuit 1426 (PK). The [SJB](#) then grounds circuit 1389 (WH) which energizes the rear window defrost relay. When the rear window defrost relay is active, voltage is supplied to the rear window defrost grid through circuit 186 (BN/LB). The rear window defrost grid is grounded by circuit 1205 (BK). The [SJB](#) provides rear window defrost status to the HVAC module through circuit 1427 (TN/LB).

DTC Description	Fault Trigger Conditions
<ul style="list-style-type: none"> • B1345 — Heated Backlite Input Circuit Short to Ground 	Defrost switch or input circuit short to ground.
<ul style="list-style-type: none"> • B1348 — Heated Backlite Relay Circuit Open 	Open or short to ground in relay control circuit.
<ul style="list-style-type: none"> • B1349 — Heated Backlite Relay Short to Battery 	Short to battery in relay control circuit.
<ul style="list-style-type: none"> • B2060 — Heated Backlite Indicator Circuit Failure 	Short to battery in heated backlite status circuit.
<ul style="list-style-type: none"> • B2061 — Heated Backlite Indicator Circuit Shorted to Ground 	Short to ground in heated backlite status circuit.

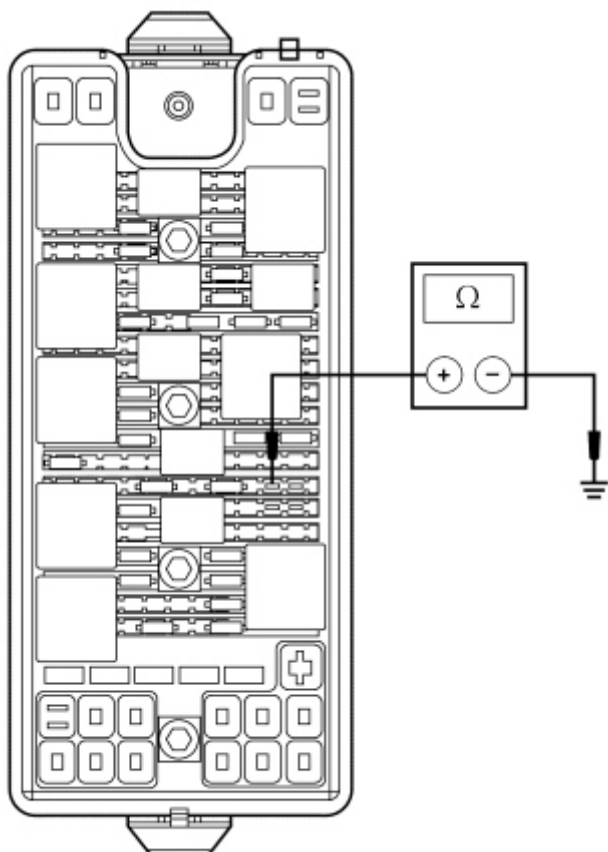
This pinpoint test is intended to diagnose the following:

- Fuse(s)
- Wiring, terminals or connectors
- Rear window defrost relay
- HVAC module
- Rear window defrost grid
- [SJB](#)

PINPOINT TEST D: THE DEFROST SYSTEM IS INOPERATIVE

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

Test Step	Result / Action to Take
<p>D1 CHECK FOR RECORDED SJB DTCs</p> <ul style="list-style-type: none"> ● Ignition ON. ● Check the recorded results from the SJB self-test. ● Are any DTCs retrieved? 	<p>Yes If DTC B1348, GO to D10. If DTC B1349, GO to D9. If DTC B1345, GO to D13. If DTC B2060, GO to D16. If DTC B2061, GO to D15.</p> <p>No GO to D2.</p>
<p>D2 CHECK CIRCUIT 1389 (WH) FOR GROUND</p> <ul style="list-style-type: none"> ● Ignition OFF. ● Disconnect: Rear Window Defrost Relay. ● Ignition ON. ● Press the rear window defrost switch to ON. ● Measure the resistance between rear window defrost relay pin 86, circuit 1389 (WH), harness side and ground. 	<p>Yes GO to D3.</p> <p>No GO to D7.</p>



N0025842

- Is the resistance less than 100 ohms?

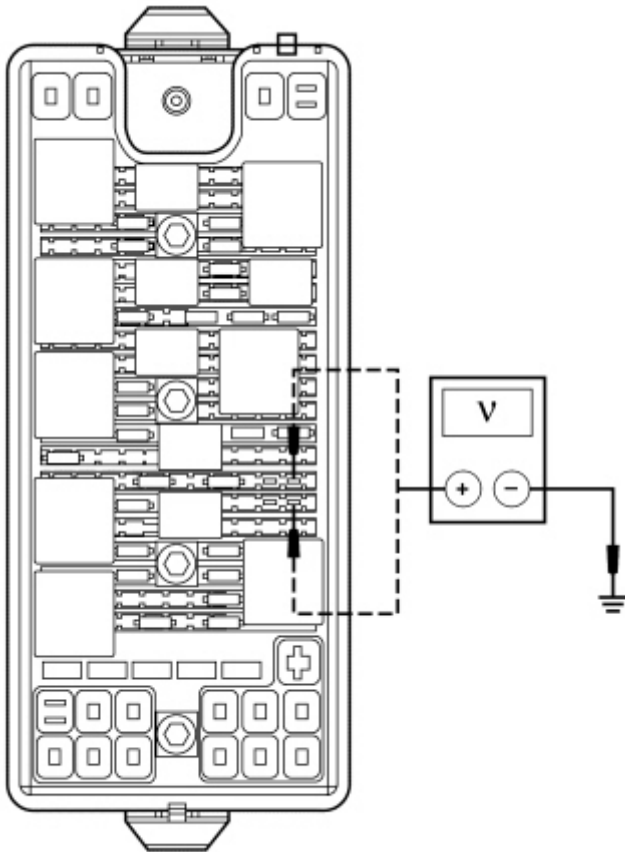
D3 CHECK CIRCUIT 298 (VT/OG) FOR AN OPEN

- Ignition OFF.
- Measure the voltage between rear window defrost relay pin 30, harness side and ground; and between rear window defrost relay pin 85, circuit 298 (VT/OG), harness side and ground.

Yes
GO to [D4](#).

No
VERIFY the Bussed Electrical Center (BEC) fuse 52 (30A) is OK. If OK, REPAIR the circuit. TEST the system for normal operation.

If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. REPAIR the circuit. TEST the system for normal operation.



N0025843

- Is the voltage greater than 10 volts?

D4 CHECK THE REAR WINDOW DEFROST RELAY FOR AN OPEN OR INTERNAL SHORT (NO DTCs)

- Carry out the Rear Window Defrost Relay Component Test.
Refer to Wiring Diagrams Cell [149](#) for component testing.
- Is the rear window defrost relay OK?

Yes
GO to [D5](#).

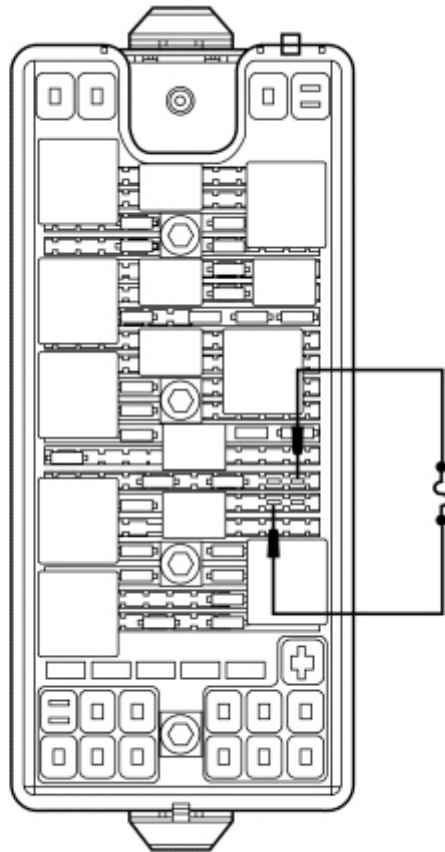
No
INSTALL a new rear window defrost relay.
TEST the system for normal operation.

D5 CHECK CIRCUIT 186 (BN/LB) FOR AN OPEN

- Disconnect: Rear Window Defrost Grid C402A (coupe) or C402 (convertible).
- Ignition ON.
- Connect a fused jumper wire between rear window defrost relay pin 30, circuit 298 (VT/OG), harness side and rear window defrost relay pin 87, circuit 186 (BN/LB), harness side.

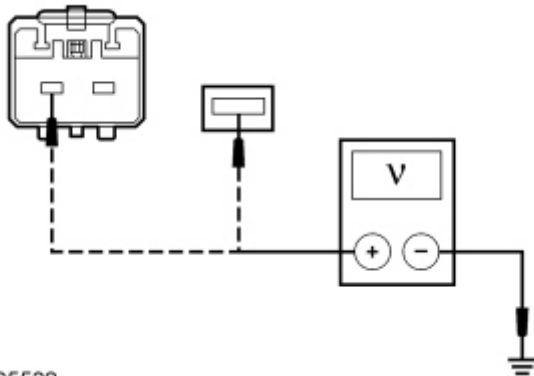
Yes
REMOVE the jumper wire. GO to [D6](#).

No
REPAIR the circuit.
TEST the system for normal operation.



N0025844

- Measure the voltage between rear window defrost grid C402a-1 (coupe), circuit 186 (BN/LB), harness side and ground; or between rear window defrost grid C402-1 (convertible), circuit 186 (BN/LB), harness side and ground.



N0025532

- Is the voltage greater than 10 volts?

D6 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

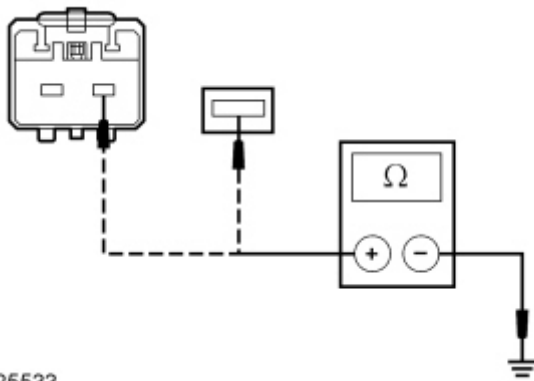
- Disconnect: Rear Window Defrost Grid C402B (Coupe Only).
- Ignition OFF.
- Measure the resistance between rear window defrost grid C402B-1 (coupe), circuit 1205 (BK), harness side and ground; or between rear window defrost grid C402-2 (convertible), circuit 1205 (BK), harness side and ground.

Yes

REPAIR the rear window defrost grid. REFER to [Window Grid Wire Repair](#) in this section. TEST the system for normal operation.

No

REPAIR the circuit. TEST the system for normal operation.



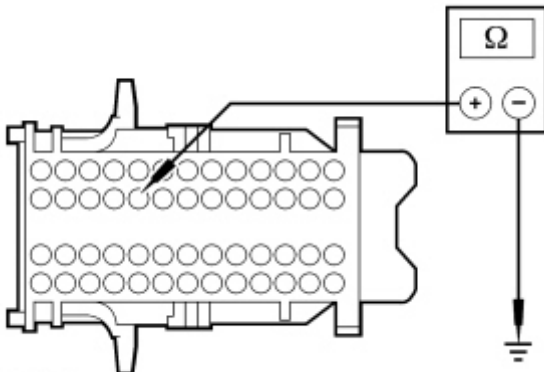
N0025533

- Is the resistance less than 5 ohms?

D7 CHECK THE HVAC FOR CORRECT OPERATION

NOTE: The use of an analog ohmmeter may be necessary for this step due to the momentary ground signal of the heated rear window switch.

- Ignition OFF.
- Disconnect: [SJB C2280B](#).
- While pressing the rear window defrost switch to ON, measure the resistance between [SJB C2280B-18](#), circuit 1426 (PK), harness side and ground.

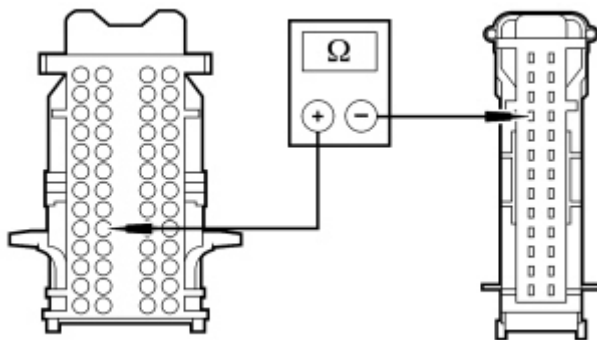


N0073604

- Is the resistance less than 5 ohms?

D8 CHECK CIRCUIT 1426 (PK) FOR AN OPEN

- Disconnect: HVAC Module C294A.
- Measure the resistance between [SJB C2280B-18](#), circuit 1426 (PK), harness side and HVAC C294A-10, circuit 1426 (PK), harness side.



N0073605

- Is the resistance less than 5 ohms?

D9 CHECK CIRCUIT 298 (VT/OG) FOR VOLTAGE

- Ignition OFF.
- Disconnect: Rear Window Defrost Relay.

Yes
GO to [D18](#).

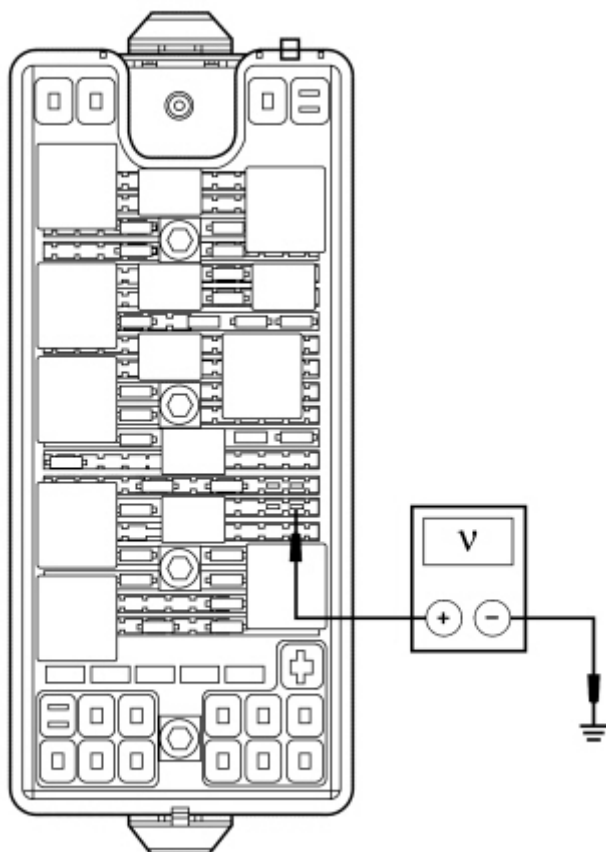
No
GO to [D8](#).

Yes
INSTALL a new HVAC module. REFER to [Section 412-01](#). TEST the system for normal operation.

No
REPAIR the circuit. TEST the system for normal operation.

Yes
GO to [D10](#).

- Measure the voltage between rear window defrost relay pin 85, circuit 298 (VT/OG), harness side and ground.



N0025845

- Is the voltage greater than 10 volts?

No
 VERIFY the **BEC** fuse 52 (30A) is OK. If OK, REPAIR the circuit. TEST the system for normal operation.

If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. REPAIR the circuit. TEST the system for normal operation.

D10 CHECK THE REAR WINDOW DEFROST RELAY FOR AN OPEN OR AN INTERNAL SHORT (DTC B1348, B1349)

- Ignition OFF.
- Disconnect: Rear Window Defrost Relay.
- Carry out the Rear Window Defrost Relay Component Test.

Refer to Wiring Diagrams Cell [149](#) for component testing.

- Is the rear window defrost relay OK?

Yes
 GO to [D11](#).

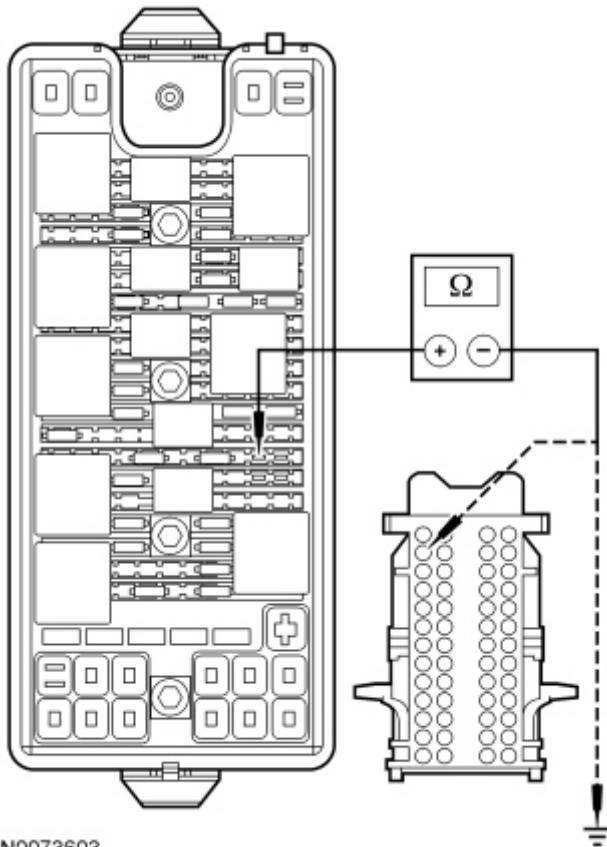
No
 INSTALL a new rear window defrost relay. TEST the system for normal operation.

D11 CHECK CIRCUIT 1389 (WH) FOR AN OPEN OR SHORT TO GROUND

- Disconnect: **SJB** C2280C.
- Measure the resistance between rear window defrost relay pin 86, circuit 1389 (WH), harness side and **SJB** C2280C-12, circuit 1389 (WH), harness side; and between rear window defrost relay pin 86, circuit 1389 (WH) and ground.

Yes
 GO to [D12](#).

No
 REPAIR the circuit. TEST the system for normal operation.



N0073603

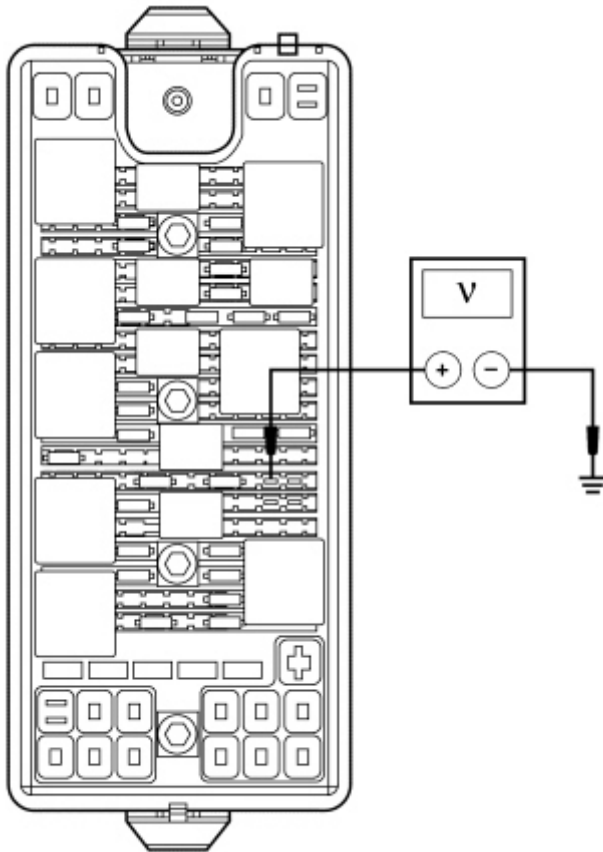
- Is the resistance less than 5 ohms between the rear window defrost relay and the **SJB** and greater than 10,000 ohms between rear window defrost relay and ground?

D12 CHECK CIRCUIT 1389 (WH) FOR A SHORT TO VOLTAGE

- Ignition ON.
- Measure the voltage between rear window defrost relay pin 86, circuit 1389 (WH), harness side and ground.

Yes
REPAIR the circuit.
TEST the system for normal operation.

No
GO to [D18](#).

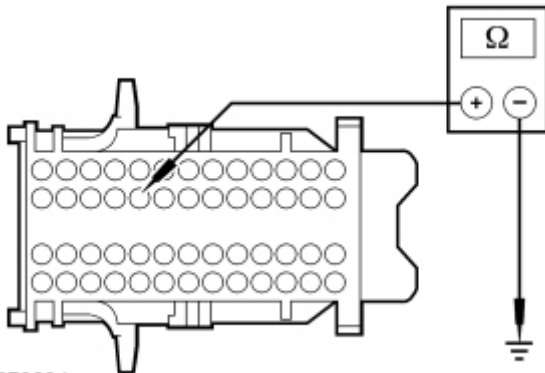


N0025847

- Is any voltage present?

D13 VERIFY DTC B1345

- Ignition OFF.
- Disconnect: [SJB_C2280B](#).
- Ignition ON.
- Measure the resistance between [SJB_C2280B-18](#), circuit 1426 (PK), harness side and ground.



N0073604

- Is the resistance greater than 10,000 ohms?

Yes
GO to [D18](#).

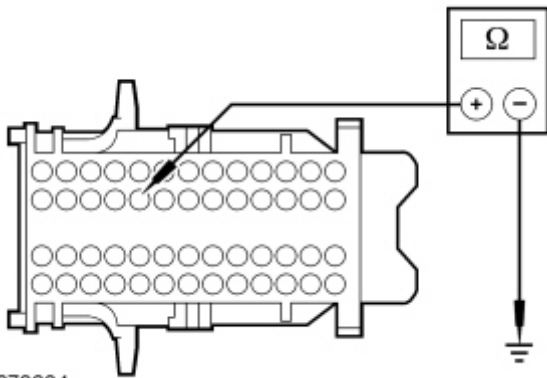
No
GO to [D14](#).

D14 CHECK CIRCUIT 1426 (PK) FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: HVAC Module C294A.
- Measure the resistance between [SJB_C2280B-18](#), circuit 1426 (PK), harness side and ground.

Yes
INSTALL a new HVAC module. REFER to [Section 412-01](#). TEST the system for normal operation.

No
REPAIR the circuit.
TEST the system for



N0073604

- Is the resistance greater than 10,000 ohms?

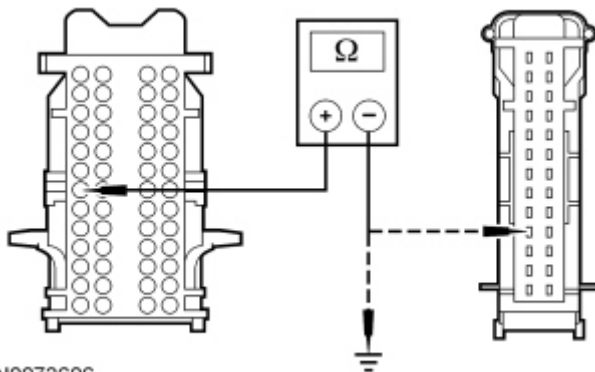
normal operation.

D15 CHECK CIRCUIT 1427 (TN/LB) FOR AN OPEN OR SHORT TO GROUND

- Ignition OFF.
- Disconnect: HVAC Module C294A.
- Disconnect: **SJB** C2280B.
- Measure the resistance between **SJB** C2280B-7, circuit 1427 (TN/LB), harness side and HVAC module C294A-4, circuit 1427 (TN/LB), harness side; and between **SJB** C2280B-7, circuit 1427 (TN/LB), harness side and ground.

Yes
GO to [D16](#).

No
REPAIR the circuit.
TEST the system for normal operation.



N0073606

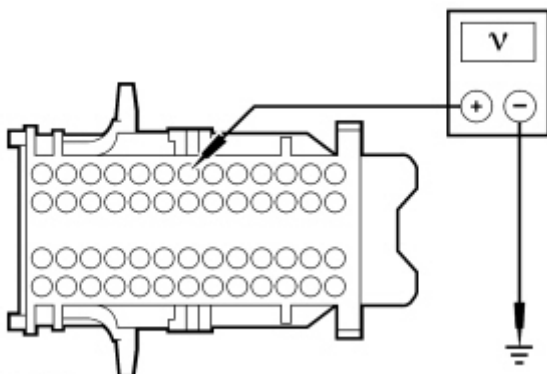
- Is the resistance less than 5 ohms between the **SJB** and the HVAC and greater than 10,000 ohms between the **SJB** and ground?

D16 CHECK CIRCUIT 1427 (TN/LB) FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: HVAC Module C294A.
- Disconnect: **SJB** C2280B.
- Ignition ON.
- Measure the voltage between **SJB** C2280B-7, circuit 1427 (TN/LB), harness side and ground.

Yes
REPAIR the circuit.
TEST the system for normal operation.

No
GO to [D17](#).



N0073607

<ul style="list-style-type: none"> • Is any voltage present? 	
D17 CHECK THE HVAC MODULE FOR AN OPEN OR INTERNAL SHORT	
<ul style="list-style-type: none"> • Install a known good HVAC module. • Operate the rear window defrost. • Does the indicator illuminate? 	<p>Yes INSTALL a new HVAC module. REFER to Section 412-01. TEST the system for normal operation.</p> <p>No GO to D18.</p>
D18 CHECK THE SJB FOR CORRECT OPERATION	
<ul style="list-style-type: none"> • Disconnect all of the SJB connectors. • Check for: <ul style="list-style-type: none"> ▪ corrosion. ▪ pushed-out pins. • Connect all of the SJB connectors and make sure they seat correctly. • Operate the system and verify the concern is still present. • Is the concern still present? 	<p>Yes INSTALL a new SJB. REFER to Section 419-10. REPEAT the self-test. TEST the system for normal operation.</p> <p>No The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.</p>

Pinpoint Test E: The Defrost System Will Not Shut Off Automatically

Refer to Wiring Diagrams Cell [56](#), Heated Window for schematic and connector information.

Normal Operation

When the rear window defrost switch on the HVAC module is pressed, a ground signal is sent to the Smart Junction Box (SJB) on circuit 1426 (PK). The [SJB](#) then grounds circuit 1389 (WH) which energizes the rear window defrost relay. When the rear window defrost relay is active, voltage is supplied to the rear window defrost grid through circuit 186 (BN/LB). The rear window defrost grid is grounded by circuit 1205 (BK). The [SJB](#) provides rear window defrost status to the HVAC module through circuit 1427 (TN/LB).

This pinpoint test is intended to diagnose the following:

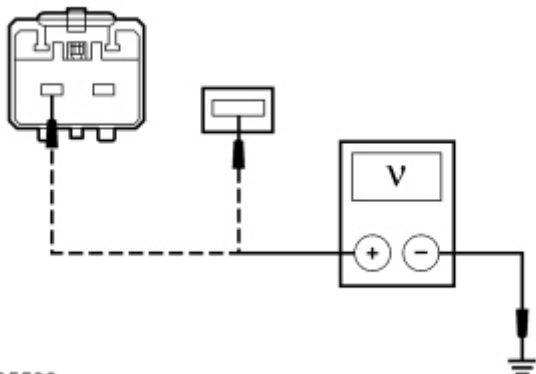
- Wiring, terminals or connectors
- Rear window defrost switch
- Rear window defrost relay
- [SJB](#)

PINPOINT TEST E: THE DEFROST SYSTEM WILL NOT SHUT OFF AUTOMATICALLY

Test Step	Result / Action to Take
E1 CHECK THE REAR WINDOW DEFROST RELAY FOR AN OPEN OR INTERNAL SHORT	
<ul style="list-style-type: none"> • Ignition ON. • Disconnect: Rear Window Defrost Relay. • Carry out the Rear Window Defrost Relay Component Test. <p>Refer to Wiring Diagrams Cell 149 for component testing.</p> <ul style="list-style-type: none"> • Does the rear window defrost relay pass the component test? 	<p>Yes GO to E2.</p> <p>No INSTALL a new rear window defrost relay. CLEAR the DTCs. REPEAT the self-test.</p>

E2 CHECK CIRCUIT 186 (BN/LB) FOR A SHORT TO VOLTAGE

- Disconnect: Rear Window Defrost C402A (coupe), C402 (convertible).
- Measure the voltage between heated rear window C402A-1 (coupe), C402-1 (convertible), circuit 186 (BN/LB), harness side and ground.



N0025532

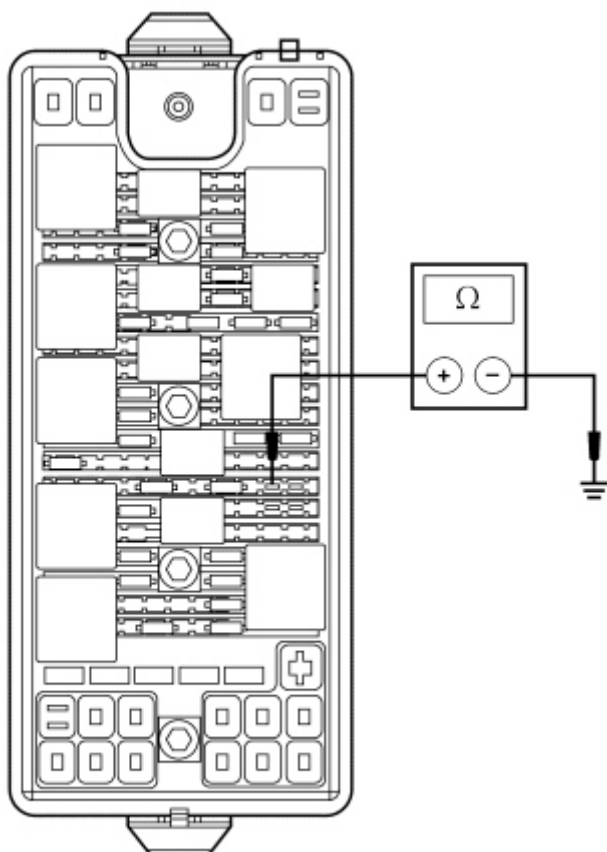
- Is the voltage greater than 10 volts?

Yes
REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

No
GO to [E3](#).

E3 CHECK CIRCUIT 1389 (WH) FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: [SJB](#) C2280C.
- Measure the resistance between the rear window defrost relay pin 86, circuit 1389 (WH), harness side and ground.



N0025842

- Is the resistance greater than 10,000 ohms?

Yes
GO to [E4](#).

No
REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

E4 CHECK THE [SJB](#) FOR CORRECT OPERATION

- Disconnect all of the [SJB](#) connectors.
- Check for:
 - corrosion.
 - pushed-out pins.

Yes
INSTALL a new [SJB](#).
REFER to [Section 419-10](#).
REPEAT the self-test. TEST

- Connect all of the [SJB](#) connectors and make sure they seat correctly.
- Operate the system and verify the concern is still present.
- **Is the concern still present?**

the system for normal operation.

No

The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.

Pinpoint Test F: The Short Drop Windows Do Not Operate Correctly

Refer to Wiring Diagrams Cell [100](#), Power Windows for schematic and connector information.

Normal Operation

The short drop window feature is activated when one (or both) of the doors are opened, which opens a door ajar switch. When the driver door is opened (opening the driver door ajar switch), a signal on circuit 1312 (LG/BK) is interpreted by the driver window motor that the driver door is open. The driver window motor then carries out the short drop function on the driver window. When the passenger door is opened (opening the passenger door ajar switch), a signal on circuit 1314 (YE/LG) is interpreted by the passenger window motor that the passenger door is open. The passenger window motor then carries out the short drop function on the passenger window. This feature is on both the coupe and the convertible.

This pinpoint test is intended to diagnose the following:

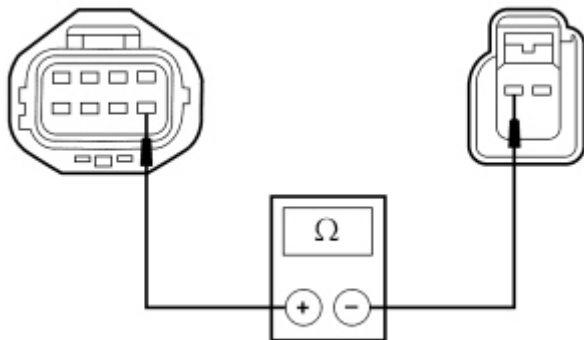
- Wiring, terminals or connectors
- Driver window motor
- Passenger window motor
- Door ajar switch
- Window motor not initialized

PINPOINT TEST F: THE SHORT DROP WINDOWS DO NOT OPERATE CORRECTLY

Test Step	Result / Action to Take
F1 VERIFY THE DOOR AJAR SWITCH OPERATION	
<ul style="list-style-type: none"> • Open and close the driver door and view the interior lamps operation. • Open and close the passenger door and view the interior lamps operation. • Do the interior lamps operate correctly? 	<p>Yes GO to F2.</p> <p>No REFER to Section 417-02 to continue the diagnosis of the interior lamps.</p>
F2 CARRY OUT THE SHORT DROP CALIBRATION	
<ul style="list-style-type: none"> • Ignition ON. • Carry out the Window Motor Initialization in this section. • Does the short drop window feature operate correctly? 	<p>Yes The system is operating correctly at this time. INFORM the customer of the short drop window feature. REFER to the Owner's Literature.</p> <p>No For the driver window, GO to F3.</p> <p>For the passenger window, GO to F4.</p>

F3 CHECK CIRCUIT 1312 (LG/BK) FOR AN OPEN

- Ignition OFF.
- Disconnect: Driver Door Ajar Switch C526.
- Disconnect: Driver Window Motor C518.
- Measure the resistance between driver window motor C518-5, circuit 1312 (LG/BK), harness side and driver door ajar switch C526-2, circuit 1312 (LG/BK), harness side.



N0025601

- Is the resistance less than 5 ohms?

Yes

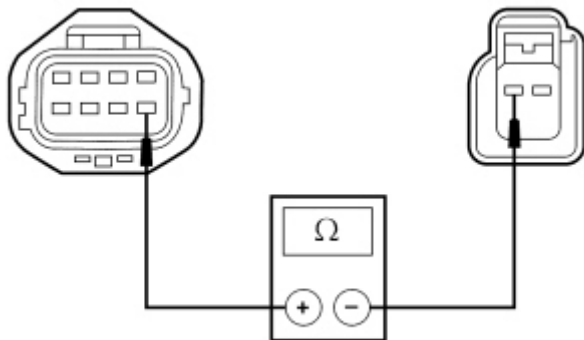
INSTALL a new driver window motor. REFER to [Window Regulator and Motor — Front Door](#) in this section. TEST the system for normal operation.

No

REPAIR the circuit. TEST the system for normal operation.

F4 CHECK CIRCUIT 1314 (YE/LG) FOR AN OPEN

- Ignition OFF.
- Disconnect: Passenger Door Ajar Switch C602.
- Disconnect: Passenger Window Motor C623.
- Measure the resistance between passenger window motor C623-5, circuit 1314 (YE/LG), harness side and passenger door ajar switch C602-2, circuit 1314 (YE/LG), harness side.



N0025601

- Is the resistance less than 5 ohms?

Yes

INSTALL a new passenger window motor. REFER to [Window Regulator and Motor — Front Door](#) in this section. TEST the system for normal operation.

No

REPAIR the circuit. TEST the system for normal operation.

Pinpoint Test G: The Convertible Top Drop Function is Inoperative/Does Not Operate Correctly

Refer to Wiring Diagrams Cell [100](#), Power Windows for schematic and connector information.

Normal Operation

The convertible top drop function is activated when the convertible top switch is operated. When the Smart Junction Box (SJB) sees the voltage drop on circuit 2038 (LB/OG) (lower) or circuit 2052 (VT/OG) (raise), the **SJB** first sends a signal to all 4 window motors on circuits 2032 (LB) (driver), 2031 (GY/PK) (passenger), 2020 (GY/YE) (LH rear) and 2021 (WH/YE) (RH rear). At this time, all 4 window motors operate to the fully down position. The rear window motors have a fully down sensor the **SJB** monitors. When the **SJB** sees that the LH and RH rear windows are fully down, it then grounds circuit 1174 (WH/RD) (lower relay) or 588 (VT) (raise relay) to close the desired relay and operate the convertible top in the requested direction. If the **SJB** does not see the correct signal from the LH rear and RH rear window full down sensors, the **SJB** does not allow the convertible top to operate.

- DTC B2360 Window Motor Control Output Circuit Failure — A single low-side driver is connected to all 4 smart motors. An open or short to ground on one or more of these circuits can set this DTC.

This pinpoint test is intended to diagnose the following:

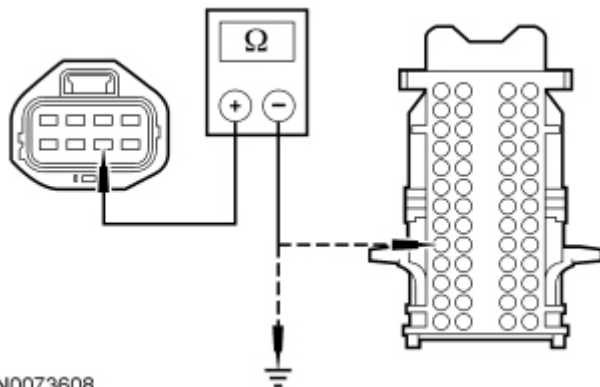
- Wiring, terminals or connectors
- Driver window motor
- Passenger window motor
- RH rear window motor
- LH rear window motor
- [SJB](#)

PINPOINT TEST G: THE CONVERTIBLE TOP DROP FUNCTION IS INOPERATIVE/DOES NOT OPERATE CORRECTLY

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

Test Step	Result / Action to Take
<p>G1 VERIFY THE WINDOW OPERATION</p> <ul style="list-style-type: none"> • Ignition ON. • Open and close all of the windows using the driver window control switches. • Do all of the windows operate correctly? 	<p>Yes GO to G2.</p> <p>No If the driver window does not operate correctly, GO to Pinpoint Test A. If the passenger window does not operate correctly, GO to Pinpoint Test B. If one or both of the rear windows do not operate correctly, GO to Pinpoint Test C.</p>
<p>G2 OPERATE THE CONVERTIBLE TOP</p> <ul style="list-style-type: none"> • Attempt to operate the convertible top. • Do the windows drop fully before the convertible top starts to operate? 	<p>Yes The system is operating correctly at this time. INFORM the customer of the convertible top drop function. REFER to the Owner's Literature.</p> <p>No For the driver window, GO to G3. For the passenger window, GO to G4. For both, INSTALL a new SJB. REFER to Section 419-10. TEST the system for normal operation.</p> <p>For the LH rear window, GO to G5. For the RH rear window, GO to G6. For both rear windows, INSTALL a new SJB. REFER to Section 419-10. TEST the system for normal operation.</p>
<p>G3 CHECK CIRCUIT 2032 (LB) FOR AN OPEN OR SHORT TO GROUND</p>	

- Disconnect: [SJB C2280D](#).
- Disconnect: Driver Window Motor C518.
- Measure the resistance between driver window motor C518-6, circuit 2032 (LB), harness side and [SJB C2280D-5](#), circuit 2032 (LB), harness side; and between driver window motor C518-6, circuit 2032 (LB), harness side and ground.



- Is the resistance less than 5 ohms between the window motor and the [SJB](#) and greater than 10,000 ohms between the window motor and ground?

Yes

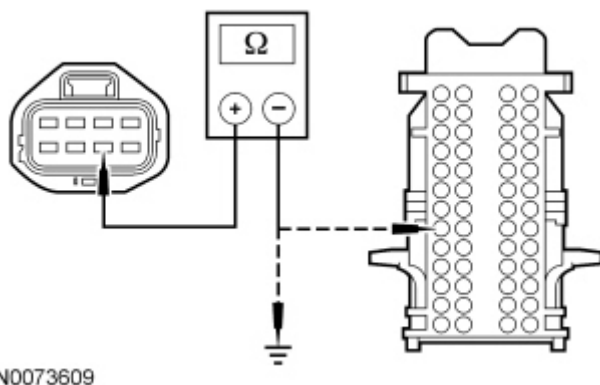
INSTALL a new driver door window regulator and motor. REFER to [Window Regulator and Motor — Front Door](#) in this section. TEST the system for normal operation.

No

REPAIR the circuit. TEST the system for normal operation.

G4 CHECK CIRCUIT 2031 (GY/PK) FOR AN OPEN OR SHORT TO GROUND

- Disconnect: [SJB C2280D](#).
- Disconnect: Passenger Window Motor C623.
- Measure the resistance between passenger window motor C623-6, circuit 2031 (GY/PK), harness side and [SJB C2280D-6](#), circuit 2031 (GY/PK), harness side; and between passenger window motor C623-6, circuit 2031 (GY/PK), harness side and ground.



- Is the resistance less than 5 ohms between the window motor and the [SJB](#), and greater than 10,000 ohms between the window motor and ground?

Yes

INSTALL a new passenger door window regulator and motor. REFER to [Window Regulator and Motor — Front Door](#) in this section. TEST the system for normal operation.

No

REPAIR the circuit. TEST the system for normal operation.

G5 CHECK CIRCUITS 2031 (GY/PK) AND 2020 (GY/YE) FOR AN OPEN OR SHORT TO GROUND

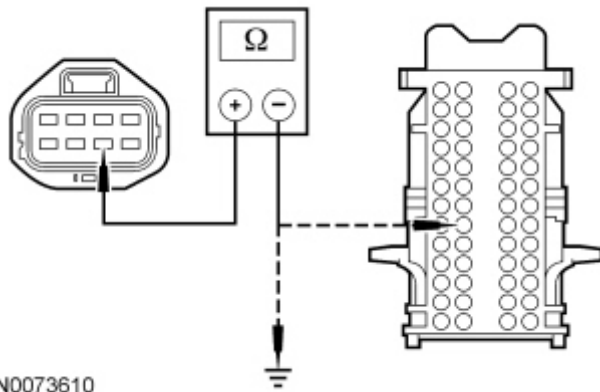
- Ignition OFF.
- Disconnect: [SJB C2280D](#).
- Disconnect: LH Rear Window Motor C3118.
- Measure the resistance between LH rear quarter window motor C3118-6, circuit 2031 (GY/PK), harness side and [SJB C2280D-19](#), circuit 2020 (GY/YE), harness side; and between LH rear quarter window motor C3118-6, circuit 2031 (GY/PK), harness side and ground.

Yes

INSTALL a new LH rear quarter window regulator and motor. REFER to [Window Regulator Motor — Rear Quarter](#) in this section. TEST the system for normal operation.

No

REPAIR the circuit. TEST the system for normal operation.



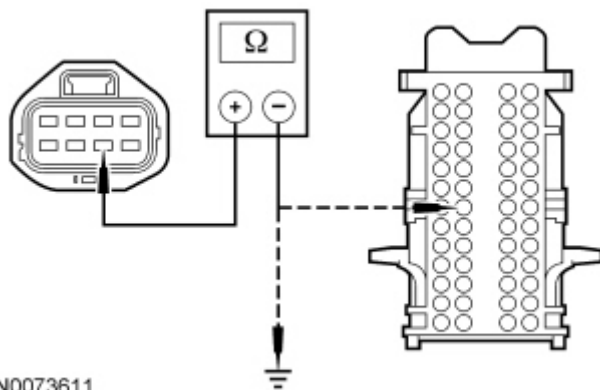
N0073610

- Is the resistance less than 5 ohms between the window motor and the **SJB**, and greater than 10,000 ohms between the window motor and ground?

operation.

G6 CHECK CIRCUITS 2031 (GY/PK) AND 2021 (WH/YE) FOR AN OPEN OR SHORT TO GROUND

- Ignition OFF.
- Disconnect: **SJB** C2280D.
- Disconnect: RH Rear Window Motor C3119.
- Measure the resistance between RH rear quarter window motor C3119-6, circuit 2031 (GY/PK), harness side and **SJB** C2280D-20, circuit 2021 (WH/YE), harness side; and between RH rear quarter window motor C3119-6, circuit 2031 (GY/PK), harness side and ground.



N0073611

- Is the resistance less than 5 ohms between the window motor and the **SJB**, and greater than 10,000 ohms between the window motor and ground?

Yes

INSTALL a new RH rear quarter window regulator and motor. REFER to [Window Regulator Motor — Rear Quarter](#) in this section. TEST the system for normal operation.

No

REPAIR the circuit. TEST the system for normal operation.

Pinpoint Test H: The Delayed Accessory is Inoperative

Normal Operation

The accessory delay relay is located in the Smart Junction Box (SJB), and the relay coil receives battery voltage through circuit 294 (WH/LB) at all times. When the key is turned ON, the **SJB** activates the accessory delay relay by grounding the relay coil, and power is sent to all window control switches. When the key is turned OFF, the **SJB** continues to ground the accessory delay relay coil for approximately 10 minutes, or until a door is opened.

- DTC B2052 Accessory Delay Relay Output Failure — Output circuit shorted to ground or open.

This pinpoint test is intended to diagnose the following:

- Fuse(s)
- Accessory delay relay
- Wiring, terminals or connectors
- Bussed Electrical Center (BEC)

- [SJB](#)

PINPOINT TEST H: THE DELAYED ACCESSORY IS INOPERATIVE

Test Step	Result / Action to Take
<p>H1 CHECK THE CORRECT OPERATION OF THE DOOR AJAR SWITCHES</p>	<p>Yes GO to H2.</p> <p>No REFER to Section 417-02 to diagnose the interior light concern.</p>
<ul style="list-style-type: none"> • Open and close the LH and RH doors and verify the interior lights turn ON when the doors are open, and OFF when the doors are closed. Carry out the Accessory Delay Relay Component Test. <p>Refer to Wiring Diagrams Cell 149 for component testing.</p> <ul style="list-style-type: none"> • Do the interior lights operate correctly? 	
<p>H2 CHECK THE ACCESSORY DELAY RELAY</p>	<p>Yes VERIFY the SJB fuse 6 (5A) is OK. If OK, GO to H3.</p> <p>If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. REPAIR the circuit. TEST the system for normal operation.</p> <p>No INSTALL a new accessory delay relay. TEST the system for normal operation.</p>
<ul style="list-style-type: none"> • Disconnect: Accessory Delay Relay. • Carry out the Accessory Delay Relay Component Test. <p>Refer to Wiring Diagrams Cell 149 for component testing.</p> <ul style="list-style-type: none"> • Is the accessory delay relay OK? 	
<p>H3 CHECK CIRCUIT 294 (WH/LB) FOR VOLTAGE</p>	<p>Yes GO to H4.</p> <p>No VERIFY the BEC fuse 44 (10A) is OK, If OK, REPAIR the circuit. TEST the system for normal operation.</p> <p>If not OK, REFER to the Wiring Diagrams Manual to identify the possible causes of the circuit short. REPAIR the circuit. TEST the system for normal operation.</p>
<ul style="list-style-type: none"> • Disconnect: SJB C2280H. • Measure the voltage between SJB C2280H-1, circuit 294 (WH/LB) harness side and ground. <div data-bbox="236 1391 847 1733" data-label="Diagram"> </div> <p>N0061711</p> <ul style="list-style-type: none"> • Is the voltage greater than 10 volts? 	
<p>H4 CHECK FOR CORRECT SJB OPERATION</p>	<p>Yes INSTALL a new SJB. TEST the system for normal operation.</p> <p>No The system is operating correctly at this time.</p>
<ul style="list-style-type: none"> • Disconnect all SJB connectors. • Check for: <ul style="list-style-type: none"> ■ corrosion. ■ pushed-out pins. • Connect all SJB connectors and verify the concern is still present. • Is the concern still present? 	

Concern may have been caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test. TEST the system for normal operation.

Pinpoint Test I: The Delayed Accessory Does Not Turn Off

Normal Operation

The accessory delay relay is located in the Smart Junction Box (SJB), and the relay coil receives battery voltage through circuit 294 (WH/LB) at all times. When the key is turned ON, the [SJB](#) activates the accessory delay relay by grounding the relay coil, and power is sent to all window control switches. When the key is turned OFF, the [SJB](#) continues to ground the accessory delay relay coil for approximately 10 minutes, or until a door is opened.

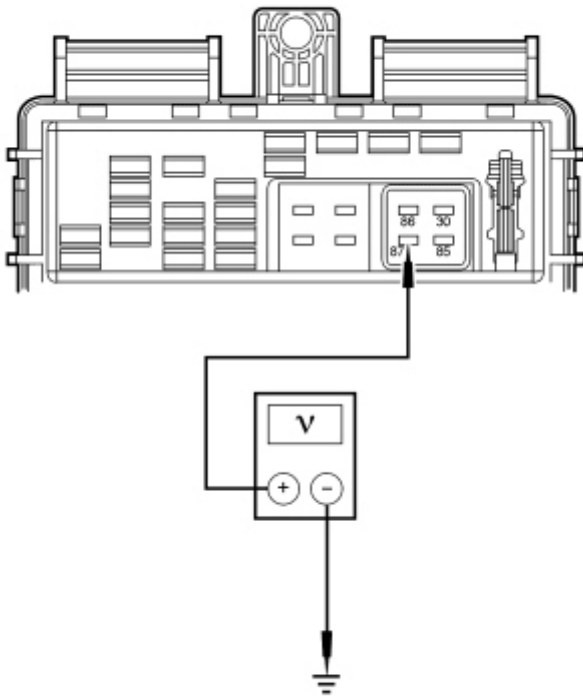
- DTC B1475 Accessory Delay Relay Short to Battery — Output circuit shorted to battery or relay contacts stuck closed.

This pinpoint test is intended to diagnose the following:

- Fuse(s)
- Accessory delay relay
- Wiring, terminals or connectors
- [SJB](#)

PINPOINT TEST I: THE DELAYED ACCESSORY DOES NOT TURN OFF

Test Step	Result / Action to Take
I1 CHECK FOR CORRECT OPERATION OF THE DOOR AJAR SWITCHES <ul style="list-style-type: none"> • Open and close LH and RH doors and verify the interior lights turn ON when the doors are open, and OFF when the doors are closed. Carry out the Accessory Delay Relay Component Test. <p>Refer to Wiring Diagrams Cell 149 for component testing.</p> <ul style="list-style-type: none"> • Do the interior lights operate correctly? 	<p>Yes GO to I2.</p> <p>No REFER to Section 417-02 to diagnose the interior light concern.</p>
I2 CHECK THE ACCESSORY DELAY RELAY <ul style="list-style-type: none"> • Disconnect: Accessory Delay Relay. • Carry out the Accessory Delay Relay Component Test. <p>Refer to Wiring Diagrams Cell 149 for component testing.</p> <ul style="list-style-type: none"> • Is the accessory delay relay OK? 	<p>Yes GO to I3.</p> <p>No INSTALL a new accessory delay relay. TEST the system for normal operation.</p>
I3 CHECK FOR SHORT TO VOLTAGE AT ACCESSORY DELAY RELAY OUTPUT <ul style="list-style-type: none"> • Measure the voltage between accessory delay relay pin 87, harness side and ground. 	<p>Yes GO to I4.</p> <p>No GO to I5.</p>



N0061716

- Is any voltage present?

I4 CHECK FOR SHORT TO VOLTAGE

- Measure the voltage between **SJB** and ground. Refer to the following table:
- Disconnect **SJB** C2280A, C2280E and C2280G.

SJB Connector/Pin	Circuit
C2280A-14	687 (GY/YE)
C2280E-26	985 (RD/LB)
C2280E-25	984 (YE/LB)
C2280E-19	956 (OG/LG)
C2280E-17	193 (YE/LG)
C2280E-16	882 (BN/YE)
C2280E-23	333 (YE/RD)
C2280G-2	400 (RD/LB)/ 170 (RD/LB)

- Is any voltage present?

I5 CHECK FOR CORRECT **SJB** OPERATION

- Disconnect all **SJB** connectors.
- Check for:
 - corrosion.
 - pushed-out pins.
- Connect all **SJB** connectors and verify the concern is still present?
- Is the concern still present?

Yes
REPAIR the circuit in question. TEST the system for normal operation.

No
GO to [I5](#).

Yes
INSTALL a new **SJB**. TEST the system for normal operation.

No
The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. CLEAR

the DTCs. REPEAT the self-test. TEST the system for normal operation.

Pinpoint Test J: DTCs B1141/B1142 — Convertible Top Full Down/Up Position Switch Circuit Failure

Refer to Wiring Diagrams Cell [103](#), Convertible Top for schematic and connector information.

Refer to Wiring Diagrams Cell [100](#), Power Windows for schematic and connector information.

Normal Operation

The Smart Junction Box (SJB) monitors the status of the convertible top through circuits 1558 (TN/BK) and 700 (WH/VT). When the convertible top is in the full UP position, the convertible top ajar switch closes and provides ground to circuit 1558 (TN/BK). When the convertible top is in the full DOWN position, the convertible top ajar switch closes and provides ground to circuit 700 (WH/VT). Ground is provided to the convertible top ajar switch through circuit 1205 (BK). DTC B1141 sets if the convertible top ajar switch on-demand self test is run with the convertible top not in the full DOWN position. DTC B1142 sets if the convertible top ajar switch on-demand self test is run with the convertible top in the full UP position. If DTC B1141 or B1142 is present, the rear quarter windows may still function during convertible top operation, but will not function when commanded by the window control switch.

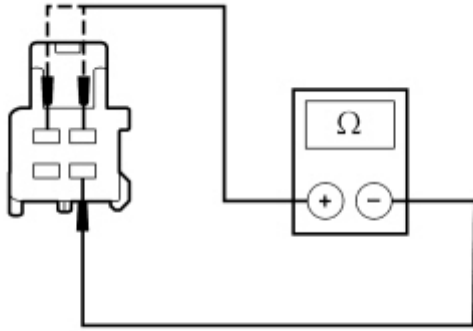
- B1141 Convertible Top Full Down Position Switch Circuit Failure — Open or short to battery.
- B1142 Convertible Top Full Up Position Switch Circuit Failure — Open or short to ground.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals and connectors
- Convertible top ajar switch
- [SJB](#)

PINPOINT TEST J: DTCs B1141/B1142 — CONVERTIBLE TOP FULL DOWN/UP POSITION SWITCH CIRCUIT FAILURE

Test Step	Result / Action to Take
J1 CARRY OUT THE ON-DEMAND SELF TEST FOR THE CONVERTIBLE TOP AJAR SWITCH	
<p>NOTE: False DTCs will set if the convertible top is not in the full DOWN position before carrying out this test.</p> <ul style="list-style-type: none"> • Connect the scan tool. • Ignition ON. • With the convertible top and the rear windows in the full DOWN position, carry out the on-demand self test for the SJB. • Does DTC B1141 or DTC B1142 set as current? 	<p>Yes GO to J2.</p> <p>No The concern is not present at this time. RETURN the vehicle to the customer.</p>
J2 CHECK THE CONVERTIBLE TOP AJAR SWITCH OPERATION	
<ul style="list-style-type: none"> • Ignition OFF. • Disconnect: Convertible Top Ajar Switch C3266. • Measure the resistance between convertible top ajar switch C3226-1, circuit 1588 (TN/BK), component side and convertible top ajar switch C3266-3, circuit 1205 (BK), component side, with convertible top in the full UP position; and between convertible top ajar switch C3226-2, circuit 700 (WH/VT), component side and convertible top ajar switch C3266-3, circuit 1205 (BK), component side, with convertible top in the full DOWN position. 	<p>Yes GO to J3.</p> <p>No INSTALL a new convertible top ajar switch. For additional information, refer to Section 501-18. CLEAR the DTCs.</p>



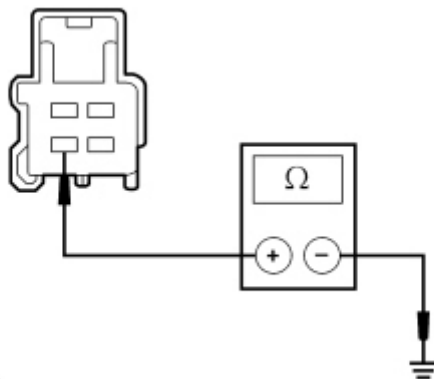
N0027058

- Are the resistances less than 20 ohms?

REPEAT the self-test.

J3 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Measure the resistance between convertible top ajar switch C3266-3, circuit 1205 (BK), harness side and ground.



N0026301

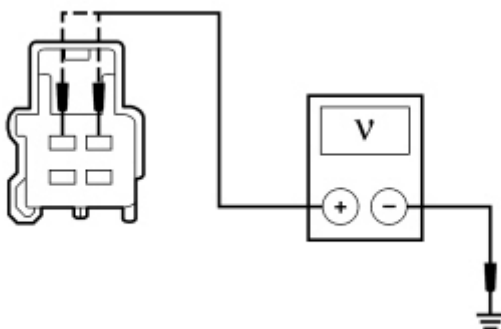
- Is the resistance less than 5 ohms?

Yes
GO to [J4](#).

No
REPAIR the circuit.
CLEAR the DTCs.
REPEAT the self-test.

J4 CHECK CIRCUITS 700 (WH/VT) AND 1558 (TN/BK) FOR A SHORT TO VOLTAGE

- Disconnect: [SJB](#) C2280C.
- Ignition ON.
- Measure the voltage between convertible top ajar switch C3266-2, circuit 700 (WH/VT), harness side and ground; and between convertible top ajar switch C3266-1, circuit 1558 (TN/BK), harness side and ground.



N0026304

- Is any voltage present?

Yes
REPAIR the circuit.
CLEAR the DTCs.
REPEAT the self-test.

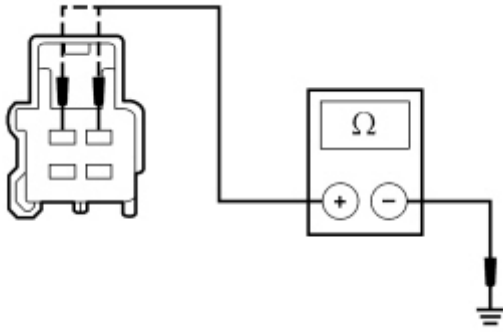
No
GO to [J5](#).

J5 CHECK CIRCUITS 700 (WH/VT) AND 1558 (TN/BK) FOR A SHORT TO GROUND

- Ignition OFF.
- Measure the resistance between convertible top ajar switch C3266-1, circuit 1558 (TN/BK), harness side and ground; and between convertible top ajar switch C3266-2, circuit 700 (WH/VT), harness side and ground.

Yes
GO to [J6](#).

No
REPAIR the circuit.



N0026302

- Are the resistances greater than 10,000 ohms?

CLEAR the DTCs.
REPEAT the self-test.

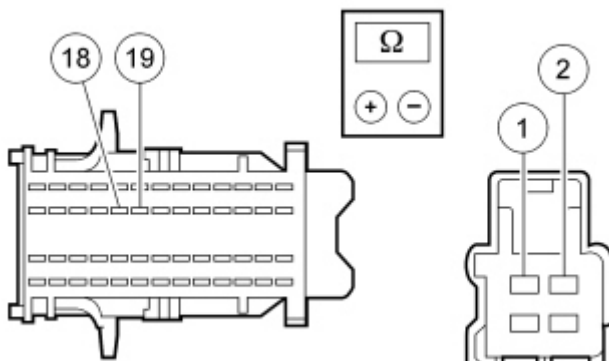
J6 CHECK CIRCUITS 700 (WH/VT) AND 1558 (TN/BK) FOR AN OPEN

- Measure the resistance between **SJB** C2280C, harness side and convertible top ajar switch C3266, harness side using the following chart:

SJB	Circuit	Convertible Top Ajar Switch
C2280C-19	700 (WH/VT)	C3266-2
C2280C-18	1558 (TN/BK)	C3266-1

Yes
GO to [J7](#).

No
REPAIR the circuit.
CLEAR the DTCs.
REPEAT the self-test.



N0087644

- Are the resistances less than 5 ohms?

J7 CHECK FOR CORRECT **SJB OPERATION**

- Disconnect all the **SJB** connectors.
- Check for:
 - corrosion.
 - pushed-out pins.
- Connect all the **SJB** connectors and make sure they seat correctly.
- Operate the system and verify the concern is still present.
- **Is the concern still present?**

Yes
INSTALL a new **SJB**. REFER to [Section 419-10](#).
TEST the system for normal operation.

No
The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test.

Grid Wire Test

1. Using a bright lamp inside the vehicle, inspect the wire grid from the exterior. A broken grid wire appears as a brown spot.
 2. Run the engine at idle. Set the heated rear window switch to ON. The heated rear window indicator should come on.
 3. Working from the interior of the vehicle with a voltmeter, contact the broad red-brown stripes of the heated rear window positive lead to battery side and the negative lead to ground side. The meter should read 10-13 volts. A lower voltage reading indicates a loose ground connection.
 4. Contact a good ground point with the negative lead of the meter. The voltage reading should not differ.
 5. With the negative lead of the meter grounded, touch each grid line of the heated rear window at its midpoint with the positive lead. A reading of approximately 6 volts indicates the line is good. A reading of zero volts indicates the line is broken between the midpoint and the B+ side of the grid line. A reading of 12 volts indicates the circuit is broken between the midpoint of the grid line and ground.
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